The Role of English in Medicine and Medical Education in Japan

John Maher

Thesis presented for the degree of

Doctor of Philosophy

University of Edinburgh

1985

DECLARATION

I hereby declare that this thesis has been composed by myself and that it is entirely my own work

John C. Maher

ACKNOWLEDGEMENTS

I would like to express my warm thanks to my supervisors Dr. Clive Criper and Dr. Alan Davies as well as Professor Ron Asher - who have provided much encouragement and constructive criticism during the making of this thesis.

My field work in Japan would not have been possible without the assistance of: Professors Hide Masuda, Chuzo Mori, Shozo Yamamoto, Nobuo and Mrs Yoshida, Tim Lewis, Marie Tsuruda, Shogo Miura, Dean Fukase, Noriko Nakashima, and the Oda families in Kabe and Takayama. My sincere thanks to these people.

In Edinburgh, the staff of I.A.L.S., in particular, Joan Maclean, have shown the utmost cooperation. Irene Macleod and Dr. E. Whittle in the Department of Linguistics and Erskine Medical Library respectively have given much patient assistance with computer programs and data processing.

I am also indebted for the support and companionship of my family and friends throughout the duration of the thesis, in particular: Maria Pavesi, Tony Kim, Mike and Liz Lyons.

I owe special thanks to Itsuko Oda who, in addition to help in typing the thesis, has been a constant source of support and understanding.

ABSTRACT

This study describes the role of English in medicine in Japan and its role in the professional training process. It outlines by means of data drawn from a sociolinguistic survey in Japan the extent to which English is used and valued as an instrument of medical communication. It also addresses the question: if English is taught as part of the medical education process in medical colleges do the language teaching programmes possess coherent aims and are they viewed as relevant and effective by the participants?

The results show that English is now an important 'lingua franca' of international and intranational medical communication for the Japanese

Several elements have accompanied and, in some cases, promoted the spread of English in the Japanese medical domain:

(1) the decline of German as a medical 'lingua franca',

(2) the role of English as a symbol of scientific progress and modernity,

(3) the phenomenon of extensive switching and lexical borrowing from English in both written and verbal discourse,

(4) the internationalisation of medical research and the establishment of internationally accessible data bases through English-medium technology,

(5) the widespread use of English in medical conferences and lectures in medical school,

(6) the presentation of research (publications, etc.) in English as a professional goal and instrument of career advancement,

(7) some differences in the degree of English use between doctors in the basic versus clinical medicine fields, doctors of different age groups, and doctors in the public versus private medical school sectors.

The investigation has demonstrated the presence of two languages in Japan's medical education system - where English is not only a language taught but also a teaching language. This has serious implications for the future of English teaching in medical schools. However, despite the relevance of an EMP (English for Medical Purposes) approach for the Japanese situation the present language curricula in medical schools are hampered by the covert ethico- religious and literary purpose of the pre-medical phase of education. The study of English, identified as the study of fine literature, is widely regarded as a humanising force in the emotional and intellectual development of the medical student.

This study has revealed gaps between the linguistic requirements of doctors and students and actual language teaching goals. An instrumental, EMP-based curriculum is suggested as a solution to the present problem.

THE UNIVERSITY *of* EDINBURGH

CONTENTS

CHAPTER THREE

METHODOLOGY and LOCATION OF THE INVESTIGATION

CHAPTER FOUR

THE ROLE OF ENGLISH IN MEDICINE IN JAPAN

CHAPTER FIVE

ENGLISH IN MEDICAL EDUCATION IN JAPAN

CHAPTER SIX

THE TEACHING OF ENGLISH IN MEDICAL EDUCATION IN JAPAN

CHAPTER SEVEN

DISCUSSION AND CONCLUSION

APPENDICES

CHAPTER ONE

INTRODUCTION

CHAPTER ONE

Introduction

1.1 Aims of the Investigation

This investigation describes the role of English in medicine and particularly medical education in Japan.

Medical education in Japan, through lectures, textbooks and so on, is officially conducted in the native language. Japan's Ministry of Education has repeatedly stated that Japanese is the medium of instruction in the nation's medical schools (W.H.O. 1953-1954, 1957, 1970, 1975-1977). English as a foreign language is taught as a required subject at the premedical level. German, in the popular imagination Japan's 'medical language', is also taught at the premedical level. The purpose of this investigation is to examine the following questions: to what extent has the English language penetrated or 'spread' within the medical domain in Japan? What part does it play in medical education? If English is taught as part of the professional process in medical schools does the language teaching programme possess coherent aims and is it viewed as relevant and effective by its participants?

If English is now an important 'lingua franca' of international communication then this fact must have some relevance for the prevailing system of English language training in Japan. Further, if we can observe the presence

of two languages in Japan's medical system - where English is a language taught but also a teaching language - then this has serious implications for the future of language teaching in medical schools.

1.2 English as an International Language

During the past decade there has been an upsurge of interest in the role of English as an international language. Whilst English, it is claimed, is being less frequently used as a national language (Harrison 1979) English has become, instead, a language of wider communication traversing national boundaries. Smith, organiser of the first 'Conference on English as an International Auxiliary Language (EIAL)', has stated that:

> "more and more countries are making English their lingua franca to communicate with the rest of the world - not just the native English-speaking world" (Smith 1983: 7).

More specifically, English has spread so extensively, it is claimed by Smith, along with Strevens (1981), Kachru (1975, 1980), and Quirk (1971), that it is now the principal language of several occupational fields: banking, tourism, diplomacy, engineering, aviation and so on.

This shift of focus towards the notion of the international uses of English has had important consequences. It has led to the design of language planning projects with strictly international rather than

intranational parameters. This contrasts with previous tendencies in language planning towards national or state interests. Strevens has remarked, for instance, that:

> "It is characteristic of the phenomenal spread of English that the language has come into use ... not only as the principal first language or a second language (ethno-centred use) but also ... as the preferred language vehicle for a number of trends, movements, activities, operations (non-ethno-centred uses" (Strevens 1985: 1).

One such field of activity is medical science.

The growth of ESP (the teaching of English for Specific Purposes) is a further sign of the increasing involvement of English within specific occupational and professional domains. As a branch of ESP, English for Medical Purposes (EMP) deals with the teaching of English in a range of medical-related circumstances. These may be broadly subdivided into EM-OP: that is occupational purposes such as English for medical conference skills, journal article preparation, etc. and EM-EP: educational purposes, such as English for academic study in medical school - reading textbooks, attending lectures, etc. Ultimately, this greater understanding of the role of English within specific domains may contribute to more efficient language skills preparation. To this end, needs analysis profiles such as Munby's (1979), were meant to provide a concrete framework for the implementation of ESP syllabuses. But so far, in the field of English for medicine, such sociolinguistic descriptions have not been

attempted. That is, profiles of language skills needed in the medical community of a particular country or institution are rare.

It is against the background of these issues, encompassing the spread of English in medicine and the teaching of English for medicine, that this study is undertaken. The study of the spread of English in Japanese medicine and the implications of the possible co-existence of two languages in the professional training system are of interest for both the fields of sociolinguistics and ESP.

1.3 Structure of the Thesis

Altogether the thesis contains seven chapters with an EMP bibliography. In Chapter Two, related research in three areas is discussed. The issues raised in these areas form part of the theoretical and practical background to the present study. They comprise the following:

(1) the field of English for medical purposes (EMP) involving a pedagogical and theoretical evaluation of the range and applicability of EMP in professional medical training,

(2) the spread of English,

(3) the development of English as an international language of medicine.

In Chapter Three, the location, overall design and purpose of the investigation is described. Hypotheses are formulated and the investigative instruments described.

In Chapter Four, six apects of the role of English

in medicine are described in detail.

(1) Japan's role in the context of world-wide publication.

(2) The development of English language use in Japanese medical journals - in order to determine possible shifts in the selection of languages for medical writing over a period of time.

(3) The language of valued research.

(4) The use of mixed language structures and code-switching in medical writing (including advertising).

(5) The reading habits and frequency of article and report writing in English by doctors.

Chapter Five describes the role of English as a medium of instruction - a teaching language - in medical schools in Japan. The chapter is divided into four parts.

(1) Library resources in English at medical institutions in Japan.

(2) Textbooks and reading in English - an examination of recommended textbooks for medical students and students' reading habits in English.

(3) An outline of anatomy and paediatrics lectures in order to determine the extent of English use in lectures.

(4) The role of English in a medical school clinical conference and doctors' attitudes to attendance and public speaking in English medium meetings.

Chapter Six focusses on the teaching of English in professional medical training in Japan - English as a taught language. The chapter is divided into nine sections.

(1) The background to English teaching in Japan.

(2) English teaching for the medical school-bound pupil.

(3) Types of medical school and departments of English.

(4) The medical school curriculum.

(5) Student attitudes towards the premedical phase of the curriculum.

(6) EMP at Shimane Medical University.

(7) EMP teaching materials for doctors and medical students in Japan.

(8) The extent and relevance of English language education during and after medical school.

(9) Doctors' and students' opinions about the purpose of English study and about curriculum improvement.

Chapter Seven draws conclusions from the investigation and discusses them in the light of the primary hypotheses. The chapter is divided into five sections.

(1) The widening role of English in medicine in Japan.

(2) The importance of English in medical education in Japan.

(3) The importance of English language training in medical education.

Two final sections (4) and (5) discuss a central problem which faces EMP programme development in Japan and outline some implications of the study of English teaching in medical schools.

CHAPTER TWO

TEACHING ENGLISH FOR MEDICAL PURPOSES (EMP) and ENGLISH AS AN INTERNATIONAL LANGUAGE

CHAPTER TWO

Teaching English for Medical Purpose (EMP) and English as an International Language

2.1 Introduction

This review of literature provides discussion of two connected areas which form part of the theoretical and practical background to the present study. The two areas are: (1) the teaching of English for medical purposes (EMP) - a pedagogical review of English teaching/learning in professional medical training, and (2) the spread of English as an international language.

Speaking of the increasing role of English as a language of international communication, Strevens refers to English as:

> "a global carrier wave for news, information, entertainment and administration and as the language in which has taken place the genesis of the second industrial and scientific revolution" (Strevens 1977: 115).

English has spread around the world not only among native English-speaking countries but also among non-native speakers who wish to communicate with native as well as other non-native speakers (Fishman 1977). As Smith points out:

> "More and more countries are making English their lingua franca to communicate with the rest of the world - not just the native English-speaking world" (Smith 1983: 7).

The role of English as an international language has increased in various occupational and professional domains. One such domain is medicine (sometimes called 'the health sciences'). It is important to recognise that, historically, English is but one in a series of different medical 'lingua francas' or international languages of medicine. The power and technical information-carrying capacity of English-speaking countries (de Solla Price 1978) has undoubtedly contributed to the growing use of English as a medium of medical information.

The development of the field of language teaching referred to as English for Specific Purposes (ESP) and its medicine-related branch English for Medicine is, according to Strevens, a direct consequence of the spread of English as an international language. Although such a connection is implicitly denied by other linguists (Hardin 1979, Baxter 1983, Bickley 1982) Strevens maintains that the emergence of ESP is a response to the 'geo-linguistic changes' that have occured regarding the role of English. The argument is set out as follows:

> "Within the general context of the recent and massive global expansion of the use of English (Fishman et al 1977; Kachru 1965-1980 inclusive, Smith 1980, Strevens 1978a, 1978b, 1979a, 1979b) there has occured during the same period a great increase in the demand for instruction in English as a foreign language. It is striking to observe that this demand is less and less generalised in its nature and more and more closely

> related to the learner's wishes and needs. Thus where in 1970 the great majority of EFL was provided as 'general English' in the form of 'English as a subject of a liberal arts education', in 1980 this generalised EFL provision is declining in many countries at the same time as there is building up a more-than-proportionate increase in demand for and provision of 'functional Englishes' or ESP" (Strevens 1980: 105).

2.2 ESP/EMP

2.2.1 What Is English for Specific Purposes?

2.2.1.1 'General' Purpose versus 'Specific' Purpose Language Teaching

When a programme is designed so as to teach 'special' or 'specific' purpose English just what is being taught? Is ESP really any different from general purpose ELT (English language teaching)?

Central to an answer to these two questions is the difference between learner's purposes and institutional or institutionalised purposes. A learner's purpose oriented course is directly concerned with the purpose for which the learner needs English. These purposes are usually defined in practical functional terms. Institutionalised purposes, on the other hand, find expression in statements such as: 'students have a language requirement in their first or second year of study'. There are, of course, fuzzy edges around these broad categories. A technical English training course may, at the same time, be an institutionalised

requirement. But the essential difference is that 'general' English courses tend to have somewhat vague or diffused aims whereas ESP courses are purposeful and usually linked to occupational or academic goals. Because of the occupational orientation, ESP courses tend to be run for adults although age is not an essential defining characteristic.

Candlin (1978) has noted three factors which signalled the divergence of ESP from mainstream ELT courses in the early sixties:

1. The increasing awareness that language is communication and that language learning is about learning how to communicate. Developing countries (and aid-giving countries of the developed world) were coming to a recognition that communication needs are an integral factor in national development.

   These needs are: (a) intranational communication, (b) international communication, and (c) the transmission of scientific and technical information and know-how.

2. The upsurge in the anthropological and ethnographic studies of figures such as Hymes, Labov and Gumperz which focussed on the study of language in social contexts.

3. The development of linguistics itself (with insights from allied disciplines of sociology, social psychology and philosophy) which was moving away from sentence-based analyses of language. (See Candlin 1978: Introduction).

Unlike general ELT, ESP courses are designed for learners with identical needs (businessmen, air-traffic controllers, coastguards, etc.). An important concept is the notion of limitation of course content. The teacher of ESP seeks to restrict or limit what is taught in a particular way. Strevens views 'restriction' as a key distiguishing criterion of ESP:

> "(i) restriction: only those 'basic skills' (understanding speech, speaking, reading, writing) are included which are required by the learner's purposes; (ii) selection: only those items of vocabulary, patterns of grammar, functions of language, are included which are required by the learner's purposes; (iii) themes and topics: only those themes, topics, situations, universes of discourse, etc. are included which are required by the learner's purposes; (iv) communicative needs: only those communicative needs ... are included which are required by the learner's purposes" (Strevens 1978: 141).

2.2.1.2 English Specialised Language

Common sense maintains that there is such a thing as specialised language and that there are social contexts in which it might be possible to teach specialised language. Strevens' second distinguishing criterion of ESP (above) refers to the selection of linguistic features (lexis, patterns of grammar, etc.) which characterise a specific social context. The language of air-traffic controllers, dining room waiters and air hostesses is strictly limited.

It represents a restricted repertoire of words and expressions (almost formulaic) selected from the whole language to cover every requirement within a well-defined context. An illustration of the workings of 'restriction' is the formation of scientific concepts. Whereas the specialist user of language utilises fully the systematic structure of language the linguistic system, as Sager et al. point out, allows the specialist to:

> " 'pack' complex relationships into single concepts in such a way that less specialised users can 'unpack' them according to specific rules. 'Electrocardiograph' indicates the function of the apparatus, the measurement made and the organ it examines. 'Gastromyotomy' is the surgical cutting (-tomy) of the muscles (-myo-) of the stomach (gastro-) and there are many other compounds with each of these elements. The use of such devices is therefore a distinguishing mark of specialised languages" (Sager et al.: 1980: 16).

White (1974) maintains that many ELT course planners neglect the importance of looking at the frequency of occurence of grammatical items. White's study found that simple verb forms exceed complex ones in frequency of occurence. In scientific English <u>reportage</u> there is a high incidence of the passive voice (two-thirds of all the verbs counted) whereas when the balance of verb group factors changes in scientific English <u>description</u> the incidence of passive voice use drops to below 25 per cent. (Whereas in scientific reportage, the writer is a reporter of

experiments, narrator and interpretor of results, in 'scientific description' the writer is typically an instructor showing general trends, procedures and principles).

The close relationship between specific-purpose teaching and specialised language may be seen in some EST (English for Science and Technology) courses. Ewer and Latorre (1971) state in their introduction to A Course in Basic Scientific English that the purpose of the course is to teach students of scientific subjects the basic language of scientific English which is:

> "made up of sentence patterns, structural (functional) words and non-structural vocabulary which are common to all disciplines and form the essential framework upon which the special vocabulary of each discipline is superimposed" (Ewer and Latorre 1971: Introduction).

Davies (1968) argued that linguists made overambitious claims for the formal linguistic categories which they claimed illustrated variety differentiation and later (1969), referring to scientific English in particular, suggested that:

> "the description of varieties has made too much of syntactic differences and can make headway only by close examination of a text's semantic structure" (Davies 1969: 9).

Echoing Davies's emphasis on the sociological study of language differentiation, Corder (1966) explains that role and status as well as lexical and grammatical categories are necessary for the description of specialised

language. In such a description:

> "what we are trying to do is to find groupings of (linguistic) features which can be shown to correlate with features, personal and impersonal, of the situational context" (Corder 1966: 12).

Corder pursues this point later when stating that the essential role of ESP is to equip the expert with the skills needed to perform particular tasks in a foreign language:

> "Recently, there has been a lot of interest in what has been called scientific or technical language and neeed to teach it. It may be useful to take the view that what we are teaching the learner is not 'scientific' French of German but to equip him to assume the role of visiting scientist in France or Germany"(Corder 1973: 42).

It would surely be unwise to assume that all ESP learners were already experts in their field. Many are, in fact, training to become experts. This level of need is not acknowledged in Corder's statement. However, the increasing emphasis of ESP on the provision of specific skills is a valuable one. In Corder's example, ESP might furnish the expert with practice in technical writing, conference skills (discussion and negotiation strategies) and within those areas an inventory of micro-skills which relate directly to the expert's needs. ESP would attempt to enhance the predictive power of the language course by referring directly to the target situation and participant role involved.

Ewer and Latorre (quoted earlier) reported that the selection of items for their textbook A Basic Course in Scientific English was based upon a frequency count of more than 3,000,000 words of modern scientfic English.

More recently, there has been a shift in perspective from an ontological view of specialised English (i.e. what specialised English is) to a more dynamic view (i.e. what language does). Traditional register analysis of lexis and structure has been felt to focus too narrowly on isolated surface features.

The 'communicative' approach to language and discourse is a 'qualitative' approach rather than the 'quantitative' approach of register-based ESP teaching. The new approach emphasises the need to move from the ontological description of scientific English which involves making statements about the formal properties of a language variety of English as manifested by a stretch of discourse towards a stretch of language. Halliday's (1968) suggestion that cohesive and rhetorical elements influence the selection of voice and syntax in Theme-Rheme selection has allowed ESP practitioners to analyse specialised writing (medical, engineering texts, etc.) from a hitherto neglected perspective. One might, for example, explore the Passive as a grammatical feature in relation to other elements such as vocabulary, rhetoric, cohesion and inference.

Commenting on the work of Trimble, Selinker and Vroman (1976, 1978) Mackay and Mountford (ibid) commend this process-oriented or dynamic approach to the description

of scientific discourse for pedagogic purposes:

> "Scientific language data particularly lends itself to examination in such terms (i.e. rhetorical functions) since the scientist is constantly involved in performing fairly explicit acts of defining, identifying, comparing, differentiating, classifying, etc." (Mackay and Mountford ibid: 48).

The authors also signal the shift from a view of scientific English as a distinct variety of English defined by formal linguistic properties:

> "We are not suggesting that the scientist is the only one who performs these acts - we all perform them in everyday life - but the scientist is more explicitly conscious of the procedure he is engaged in, he is much more conscious of the rhetorical value of the language he is using" (Mackay and Mountford: ibid).

This perspective means that the EST teacher, unlike the general ELT teacher, is more concerned with the concepts and conceptual relationships "common to all advanced and complex thought" as Strevens points out. He continues:

> "The importance of these concepts in advanced thought is that they state the logic - the rhetoric, the argument - of the text, as well as having grammatical consequences" (Strevens 1980: 124).

Philosophers of science such as Gerr (1942) explicitly link the conceptualisation of man's knowledge of the universe with development of the linguistic expression of that

knowledge. In contrast to the notion of specialised language as a separate and distinct variety of language, there has to emerge a broader picture of language which is both consistent with the philosophical description of the way (scientific) knowledge develops and suggestive of the notion that language is some sort of continuum rather than a series of compartments. Gerr addresses the former issue when he states that knowledge is extended through lexis and rationalised through restricted syntax. On the question of language variety (scientific specialised language) he concludes:

> "The everyday language of science and technology is in essence no more than the common language with its rational structure and factual vocabulary enormously developed" (Gerr 1943: 161).

2.2.2 Register and Discourse

2.2.2.1 Register and Style

Whether or not teaching English for medical purposes necessarily implies that a distinctive entity such as 'medical English' register has already been identified and clearly defined is, as I have indicated in my discussion of specialised languages (above) a problematic question. What we can clearly say, with Brumfit, is that ESP, generally, is "indebted to the tradition of analysis of functional style or register" (Brumfit 1979: 16). Robinson makes the useful point that:

> "One must be careful not to suggest that one feature, e.g. the type and sequence of noun

> adjuncts, is unique to one type of text or that this one feature uniquely characterises the text" (Robinson 1980: 18).

Swales (1981), who has observed the use of Latinate names and article usage in biological texts has, at the same time, warned against the:

> "hasty assumption that talking about language for special purposes automatically means talking about special languages" (personal communication: 1982).

The matter seems, therefore, to be more complicated than being able to make definitive ontological statements about 'X' item being 'medical English' or not. Dubois' research, for instance, on noun compounding in biomedical journal articles has led her to reject the notion that noun compounds in medical English are a 'static' phenomenon, that is 'given or created outside the text' as a piece of 'medical register'. It is Dubois' contention that:

> "extensive prenominal modification of head nouns, which has been assumed to be a defining characteristic of written scientific English is better regarded as a stylistic feature" (Dubois 1981: 18)

Linguistics has given the name 'register' to 'satellite languages' (Firth 1959) or languages of speciality such as 'medical English'. This contrasts with the German tradition which has divided special language into 'Wissenschaftsprache' (the language of science) and 'Fachsprache' (the language of occupations and trades). At least one German author

places medical English into the latter Fachsprache category (Trenkner 1978) signalling his emphasis upon the occupational use which doctors make of language rather than the properties of the register itself.

The development of new terminology in language which do not possess adequate technical description must be a powerful force in medical register formation. The experience of field health teams working among North American Indian languages provides a useful example (see the Cornell Health Team report in Read 1966: 135ff). Indigenous languages borrowed heavily from English due to the expansion of health care and education. It was discovered, for instance, that at the Navaho clinic where health visitors were being trained that Navaho possesses an extensive vocabulary for the skeletal system but almost none for the circulatory and nervous systems. During an anatomical laboratory demonstration when a sheep was being dissected and the similarity between sheep and human organs was being noted it was learned that Navaho possesses only one word for the contents of the thoracic cavity. This seems due to the fact that when they kill the sheep all these organs are removed en masse. As a result, new modes of description are introduced into medical Navaho from English.

Lewis (1976) has described the special characteristics of adjectives in descriptive anatomy in English and de Bakey (1966: 247) has pointed to the tendency of medical 'jargon' (defined as the 'restricted language of the medical community') to turn nouns into verbs such as: adrenalectize

(adrenalectomy), laparotomize (laparotomy), thoracotomize (thoracotomy), hospitalize (hospital), hemoptysize (hemoptysis), diuresed (diuresis). (See also Wingard, 1982, on verb function in medical prose).

Other morphological peculiarities of medical register involve word coinage and syllabic contraction such as: 'urinalysis' instead of urinoanalysis, 'contraception' instead of contraconception, or 'hemostat' for hemostatic forceps. (See de Bakey 1966 and Baker 1980).

Abberton (1979) has pointed to the characteristic use of noun compounds in medical discourse. Also termed 'complex nominalisation', compounding refers to the relative proportion of attributive nouns and adjectives which modify the head of the nominal group. Examples given in Abberton and by other authors include:

blood donor (blood donor cell type)
death trauma (death trauma effect)
plaque forming cell
odor control process
human blood group B cell-immune
cell-immune horse sera
crisis intervention technics
root nodule bacteria

It is important to remember that the majority of discussions of style are, in fact, attempts to change medical usage in some way and frequently involve efforts to de-specialise medical register, to eliminate the very features which are supposed to define that which is usually called medical register. De Bakey (1976) and Maeve and

O'Connor (1981) have, for example, called for 'plain English' instead of 'jargon': e.g. killed instead of 'sacrificed', died instead of 'expired', death instead of 'demise', breathe instead of 'respire', and so on.

The most extensive description of medical English as a special 'register' has come from within the medical profession through characterisation of medical usage as 'good' or 'bad' medical style. The general complaint is against the increasing specialisation of medical language which, it is claimed, is becoming more and more isolated from traditional phraseology and use in medical communication, let alone from the general norms of 'ordinary' discourse. Typically, Chricton (1979a, 1979b) writing in the New England Journal of Medicine satirises 'Medspeak' as:

> "an Orwellian invention of interns and residents, a lingua franca ..... used for communication among speakers of different and mutually unintelligible language .... used solely for limited purposes" (Chricton 1979: 42).

Chricton offers several everyday examples such as the frequent use of abbreviations in doctor-doctor conversations:

> "We had a DOA last night" (dead on arrival)
> "He entered in a bad DKA" (diabetic ketoacidosis)

Ellipsis features can be seen in:

> "I'm giving the patient oids" (steroids/corticorteroids).

The frequent use of slang is noted in expressions such as:

> "gorked-out" (comatose)
> "squash" (cranium)

"flight-deck" (neurosurgical intensive care unit)

Christy (1978: 980) has noted that this type of jargon (i.e. "gorked-out" etc.) is frequently associated with:

> "the need to relieve feelings of distress in the face of bad disease" (Christy 1978: 980)

Whereas Chricton and Christy are clearly concerned about what seems to the layman as merely the substitution of one 'jargon' for another (i.e. acceptable and unacceptable jargon), other critics of 'medical English' such as professional journal editors outline the current sylistic features of written 'medspeak'. Ingelfinger cites the following:

> "adherence to the passive voice, cumbersome diction, excessive use of initials, long sequence of nouns used as adjectives, stereotyped sentence structures and hackneyed beginnings" (Inglefinger 1979: 479).

These and other features of 'medical register' have been widely discussed in Hewitt (1938), Roland (1970-1973), Chricton (1975, 1979), Christy (1978, 1979a, 1979b), Wilson (1961), de Bakey and de Bakey (1965-1968, 1970, 1976), Kammerer and Lane (1975) and Baker (1985).

Murison-Bowie's (1967) application of certain register properties to a language learning situation represents one of the few attempts to integrate sylistic considerations within an EMP syllabus. He considers the problem of having to prepare ESP/EMP teaching materials for qualified doctors doing postgraduate clinical training in the U.K.

Communicative situations are first identified:

> "the divisions are then subdivided according to channel, and subjective judgement passed as to the degree of formality used in each situation" (Murison-Bowie 1967: 43).

This information is then organised by a language course planner according to a schemata involving context of utterance, degree of formality and degree of student contribution (see Table 2.1 and 2.2).

TABLE 2.1 The Use of Register Analysis in a Course of Medical English (adapted from Murison-Bowie 1967: 43). The Spoken Component.

Situations incorporating spoken language	degree of formality	student contribution
Radio/T.V.	++ ---	-
Lecture	++	-
Oral examinations	++	++
Tutorials	+	+
Discussions		
(a) professional colleagues	+	++
(b) patients (lay)	-	--

TABLE 2.2 (Adapted from Murison-Bowie: ibid) Writing Component

written language situations	degree of formality	student contribution
professional journals	++	-
textbooks	+	-
case histories	+	+

2.2.2.2 Discourse Analysis

The analysis of register of 'special varieties' of English has led to the impression among some applied linguists that ESP is essentially a matter of description of some specific register which is then simply taught. As recently as 1980, van Naerssen, Krashen and Kimmell, concerning an English test for doctors in the U.S.A. could maintain that:

> "ESP requires a detailed analysis of the syntax, vocabulary, and discourse of a subfield to be developed into a syllabus and presented bit by bit" (van Naerssen, Krashen and Kimmell 1980: 48).

To some extent, EMP textbook writers have reflected this rather structuralist approach: the extensive passive transformation drills in Brasnett (1976) and reference lists of medical vocabulary in Parkinson (1978). But recent developments in the study of discourse have shifted the centre of attention away from variety towards analysis of the interactional processes which occur in communication in medical contexts. Considerable research has been conducted in the area of doctor-patient interaction but also, to a lesser degree, in medical writing.

Prince (1979) and Prince et al. (1982) have described hedging in physicians' discourse based on an extensive corpus of data collected from 12 hours of recordings of doctors' morning rounds.

Shuy (1974, 1976, 1979) has identified three problem areas in doctor-patient communication:

(1) the problem of medical jargon;

(2) cross-cultural differences in attitudes to sickness, health, and social distance;

(3) the rigid question-answer format of the traditional medical consultation.

Many studies have highlighted inequalities in the organisation of power relations expressed by linguistic behaviour. Coleman and Burton's (1985) account of the dentist-patient relationship falls into this category and describes:

> "patient anxiety caused by the transgression of fundamental discoursal preconceptions during consultation" (Coleman and Burton 1985: 102).

Also, "dismissive responses to patients' self report" bring about:

> "certain disadvantages which work against what the dentist is trying to achieve" (Coleman and Burton: ibid).

Suprato (1982) has similarly noted that physicians' receptive ability towards patient's explanations has to improve to allow participants 'equal rights' to introduce and respond to topics:

> "the patient's role is restricted to responses to doctors' questions, to requests for clarification or to indications of agreement. Although the patient frequently interrupts the doctor's talk, the latter doesn't often respond to such interruption and seems to consider it void" (Suprato 1982: 24).

Coulthard and Ashby (1975) have investigated 'exchanges' - minimal units of all verbal interaction - in terms of specific moves. The authors discovered by analysis of 24 tape-recorded interviews that doctor-initiated information-seeking moves were most frequent. The linguistic and rhetorico-topical structure of 'exchanges' and 'moves' was analysed.

Women's language in medical interviews has been studied by Bonnano (1982). Hedges, euphemisms, tag questions and intensifying expressions were studied stressing the extent to which the sex variable in linguistic behaviour was causing:

> "a serious communication barrier between physicians and their patients" (Bonnano 1982: 28).

An important implication of medical discourse analysis for EMP teaching concerns the recurrent theme of 'power relations', equal rights for patients in consultation encounters with doctors. Merton (1976) has noted how the behaviour of medical professionals is often: "condemned or applauded .... or morally judged not systematically investigated" (Merton 1976: 39). But if discourse analysis has exposed inequalities in consultation procedure in the form of asymetrical discourse patterns between client and physician does the EMP instructor reinforce those inequalities by teaching doctors how to manipulate such discourse strategies in English? And if alternative, more 'progressive' modes of doctor-patient conduct existed would it be the teacher's responsibility to refer to these - thereby

becoming involved in issues within medical education?

In general terms, medical discourse analysis is of interest to the applied linguist and EMP teacher in the way it is able to make talk 'visible' as recognisable conversation with its full repertoire of analytic features (requesting, methodic ways of answering, and so on). Also, as Cicourel states:

> "the medical interview is of value to the applied linguist because it highlights conditions that exist in the study of discourse but which are not always addressed. For example, the patient may mislead the interviewer by descriptions given... The physician and linguist face similar problems: how to make visible those aspects of discourse and textual materials that seem intended, implied or misleading. The doctor must also maintain aspects of politeness, interest and expertise" (Cicourel 1981: 84).

Some theoretical studies in language and medicine combining elements from the fields of discourse and register analysis are, in fact, directly linked to language teaching objectives in English for medicine. Van Naerssen (1985) analysed tape-recorded medical records in hospital in order to investigate the problems of foreign medical graduates in the U.S.A. For similar reasons, Coleman and Burton (1985) analysed the discourse of consultations whilst working towards a language competence test for European dentists coming to work in Britain.

Some EMP teaching materials specifically draw upon discourse models such as the DOPACS (Doctor-Patient

Communication Skills) materials for overseas doctors in Britain. These materials owe much to speech act analysis via a functional framework. The theoretical background to these and other 'communicative' materials noted in section 2.2.4.3 (2) also reflect this influence. Meanwhile, the analysis of rhetorical rule operations in medical discourse has been discussed by various writers including Hadzi-Jovanic (1979) and Bruton (1977). Meanwhile, Bruce (1984) has described the information patterning in the Methods and Materials section of medical reports. He noted, for example, the characteristic "rhetorical structural patterns" involving "the relevant operative functions and constraints" (the given/new information cycle in particular) (Bruce 1984: 5-18). Pettenari's (1983) detailed examination of the discourse function function of grammatical alternation in 14 surgical reports was designed to offer possibilities for pedagogical purposes as well as for "designing studies for specific purpose acquisition" (Pettenari 1983: 45).

2.2.3 The Field of EMP

2.2.3.1 The Importance of English for Medical Purposes

English for medical purposes (EMP) refers to the teaching of English for doctors, nurses, and other personnel in the medical professions. It is the teaching/learning of English for a utilitarian purpose, for an identifiable goal - typically the successful performance of work or optimum

effectiveness of medical training. In general terms, EMP is:

- designed to meet the specific English language needs of the medical learner (e.g. nurse, G.P., dentist, etc.,
- focusses on themes and topics particular to the medical field,
- focusses on a restricted range of skills which may be needed by the medical learner (e.g. writing a medical paper, preparing a talk at a medical meeting, etc.).

Three elements of EMP highlight its importance as an entity within the field of English language teaching.

Firstly, EMP implies a new emphasis in teaching medical learners. EMP implies a re-direction of pedagogical skills by teachers of English, and a new approach to English study by learners. Particularly in the field of English teaching/learning during medical education, EMP provides a practical alternative to the 'general' orientation of language teaching. Cultural and literary emphases, education for life, and the

> "assumption that English in college is an arts subject with general educational and cultural value" (Strevens, 1971: 7)

are all challenged by the EMP approach.

Learner centredness is, therefore, part of the new emphasis provided by EMP courses - in contrast to what Munby has termed:

> "non-learner-centred criteria such as the teacher's or institution's predetermined preference for General English or for treating English as part of general education" (Munby 1978: 7).

But even for those teachers of English in medical schools for whom the choice is not between literature teaching and EMP but between EMP and some form of 'General English' instruction, the obligation to consider the specific language needs of their learners is now an important factor in the field of language teaching. The new emphasis is a recognition of the combined sociological as well as linguistic character of language learning. EMP, as other branches of ESP, seeks to:

> "effectively reverse the old set of priorities: where it was once thought that the linguistic structures were the key factors and circumstances of use merely tangental, if relevant at all, a new orthodoxy seems now in the making, which asserts that a detailed analysis of the situations of language use is a pre-requisite even to the selection of the particular linguistic forms or structures that ought to be taught" (Schutz and Derwing 1981: 31).

Secondly, EMP involves <u>purposeful</u> learning. Of paramount importance is attention to the practical needs of the learner: for example, the need to write patients' case histories in English, the patient's need for a 'survival vocabulary' in medical situations such as pre-natal care. Robinson asserts that:

> "learners and teachers should be constantly

> aware of these purposes and not introduce irrelevant material into the course" (Robinson 1980: 10).

This leads us to the next important element of EMP.

Thirdly, EMP implies a positive re-direction in syllabus design and materials writing by channelling the results of a needs analysis into the precise what, where, and how of teaching. According to Munby, EMP courses are:

> "those where the syllabus and materials are determined in all essentials by the prior analysis of communication needs of the learner.. There should be important differences in the English course for a non-native requiring English in order to study medicine in his own country as opposed to England; or when the language of instruction is the learner's mother tongue as opposed to English (when, for example, he might need English only for reading medical texts" (Munby 1978: 2).

A feature of current EMP materials design is the concern to present a theoretical rationale in a particular way - according to a particular syllabus. To adopt an EMP syllabus must imply, also, the adoption of a theoretical argument for enhancing the communicative effectiveness of an English language course. The link between the so-called 'communicative school' of language teaching and EMP/ESP is stated by Widdowson (co-editor of 'Focus - Medicine' 1975) as follows:

> "So long as our concern is with the teaching of 'general English' without any immediate

> purpose, without knowing in a definite way what kind of communicative requirements are to be made of it, then the need to teach language as communication is not particularly evident. Once we are confronted with the problem of teaching English for a special purpose, then we are immediately up against the problem of communication" (Widdowson 1979: 2).

2.2.3.2 The Development of English for Medical Purposes

Before the advent of ESP proper in the 1960s a powerful tendency could be observed within the medical profession itself, namely, concern about the nature and effectiveness of medical communication. Firstly, there was recognition among doctors that medical writing requires certain stylistic and rhetorical operations. The Lancet's first editor reminded his readers that the publication would be concerned with the "correct description" of medical discovery (Wakely 1823: i, I) and subsequent literature abounds with attempts to instruct doctors in "the art and practice of medical writing" (to use the title of Fishbein and Simmons' book (1925)). The slogan among medical writers was then as now (again expressed in the title of another handbook of instruction): 'Better Communication for Better Health' (Neal 1962).

Secondly, there was the growing awareness that the language of medical communication constituted an identifiable 'type' of English different from that ordinarily used. (This point is taken up in previous

sections - 2.2.1.2 and 2.2.2).

Thirdly, language planning by means of the standardisation of technical terminology has long been a feature of the field of medicine: systems of medical nomenclature in particular. There is, for instance, international agreement about anatomical nomenclature which has resulted from several revisions of the B.N.A. (Basel Nomina Anatomica) of 1875 (see Roberts 1971: 45-46). Bilingual and multilingual medical dictionaries are produced in large quantity - the first comprehensive dictionary of medicine in English produced by James (with a preface by Dr. Johnson) in three volumes (1743-45).

The first known application of medical register analysis to the problems of effective communication among non-English speaking doctors emerged in Seccombe's 'Styles of English encountered within the Register of Obstetrics and Gynaecology related to the Linguistic Problems of the Overseas Student' (1960-61).

The first generation of EMP textbooks began to emerge, at this time, in overseas contexts: Tomoyoshi (1962) in Japan, Yeliseyeva and Yershova (1962) in the Soviet Union, Mackin and Weinberger (1962) in Uruguay, Rhenicer (1965) in Czechoslovakia, Horvatovic (1966) in Yugoslavia, and Shao (1962 - revised 1978) in China. U.S.A./U.K. based materials began to emerge only after these overseas publications, e.g. English Language Services' three- volume Special English: Medicine (1966).

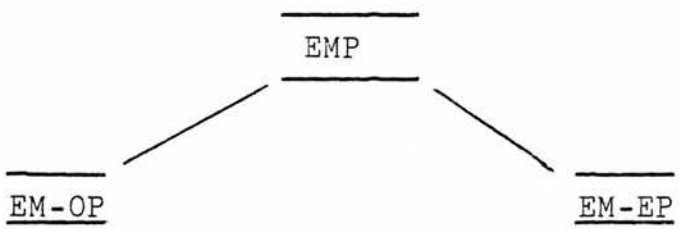
From its inception roughly 25 years ago, EMP has

measurably expanded as a recognisable branch of ESP both in terms of the output and sophistication of teaching materials and course available in Britain, U.S.A. and elsewhere overseas, as well as in the emergence of EMP literature. Articles regularly appear in general and ESP-related journals. The TESOL Convention (Teachers of English to Speakers of Other Languages) holds an annual 'ESP Medicine Colloquium' and in 1984 an EMP Newsletter was established from an EMP centre in Kuwait with potential for an information exchange among a network of teachers in the field of EMP.

2.2.3.3 Two Main Branches of EMP

In defining the main branches of EMP we need to distinguish between broad categories: EOP (English for Occupational Purposes) and EEP (English for Educational Purposes). EMP can be usefully classified as being either occupational (EM-OP) that is, related to active professional requirements (consultation skills, conference presentation etc.) or (EM-EP) involving language training as part of primary medical studies. (See Figure 2.1 below).

FIGURE 2.1 Two Branches of English for Medical Purposes



EMP English for Specific Purposes EM-OP English for Medical/Occupational Purposes EM-EP English for Medical/Educational Purposes

These divisions will correspond to the different training provided for already qualified medical professionals such as doctors, nurses, and paramedical staff, and, on the other hand, students in medical and nursing colleges. There are mutually shared skill areas - such as technical reading. But whereas the content area may also be the same (let us say parasitology) the teaching procedure, levels of knowledge involved and, above all, purpose may well be different between doctors and students. The latter may need to pass an examination, for example.

The EMP learner is by definition 'purposeful' in his or her approach to learning, although this does not imply that the learner either (a) knows precisely what needs to be learnerd or (b) is able to articulate it. But there is also the question: just who are these 'medical' learners and what are their purposes?

I have suggested a partial answer to this question by proposing the two categories: EM-OP and EM-EP. A 'medical English' course may, therefore, include the pedagogically incompatible requirements of nurses, medical students, laboratory technicians and globe-trotting, conference-hopping doctors. As Buchan points out:

> "It does not follow that students to whom the same label can be applied can be taught together or that materials developed for one 'medical' application will have any acceptability for another" (Buchan 1980: 24).

The distinction EM-OP/EM-EP as a refinement of the generic category EMP requires further separation not, this time, at the 'macro' level (occupational or educational) but at the 'micro' level of professional or hierarchical categories which also relate to the place of work. We can distinguish between the possible requirements of a departmental head, a lecturer and a laboratory assistant within a single department of a hospital or medical school. There is also the crucial issue of discipline diversity (basic vs. clinical vs. experimental); individuals doing experimental research, for instance, may never require the language skills needed by a clinician in doctor-patient situations.

But the EMP programme planner and textbook writer must also consider the fact of subject diversity. English for anatomists, paediatricians, surgeons, opthalmologists, dentists, etc. implies a thematic difference factor in EMP course design. Am I teaching toxicologists or clinical psychiatrists, gynaecologists or neurosurgeons? Consciously or not, many textbook writers deal with these differences by dividing books into disciplinary sections. Brasnett (1976) for instance, thematises reading extracts according to subject areas: bacteriology, poisoning, nutrition, communicable diseases, paediatrics, etc. A few courses are designed with one target area in view: Lewycka et al. (1979) - ante-natal care, Bush and Shackleton (1981) - dentistry, English Language Services (1984) - surgery. Other courses, on the other hand, address the problem of

medical situation - such as the practice of maritime medicine (Trenkner 1978) or work in the medical laboratory (Swales and Fanning 1980), or hospital and general practice (Candlin 1977).

The constellation of specialist subject and situational factors may interlock at certain points. Maritime medicine delimits the range of specialist activities, for instance, whereas individuals from most other disciplines and from any point in a medical hierarchy may require conference skills (Aoki 1983).

FIGURE 2.2 Possible Range of Courses in English for Medicine

TYPE OF COURSE	TYPE OF LEARNER
medical conference preparation	doctor
technical reading	all (esp. medical) student
EM-EP	medical student
PLAB/ECFMG	doctor
report writing	all
journal article writing	doctor
doctor-patient interaction	doctor
nurse-patient/ nurse-doctor interaction	nurse
communication skills in ESL health care	native speaker working with ethnic minorities e.g. recent immigrants

Most courses are structured according to 2 basic frames: (1) the type of learner involved (nurse, doctor, students being the main groups) and (2) the nature or main

purpose of the course (e.g. to teach professional test preparation, practice in writing, reading, etc. or some combination of elements). Figure 2.2 illustrates possible types of course and learner within EMP.

Whilst most of the coursebooks in EMP, including those mentioned so far, specify the type of learner and the skill(s) being practised, only a few deal with one subject specialism. These are the most recent publications (English Language Services 1984 - Surgery). and may signal a tendency in that direction. The generation of sub-specialist teaching materials within EMP may be the logical sequence of the initial branching that must have taken place when EMP replaced the earlier 'English for Science' materials which preceded them (e.g. Croft 1960).

If the generation of scientific domains within ESP, such as medicine, is based upon the awareness of specific fields of knowledge and different types of participant it also leads to the notion of differences in language variation. This is the issue of 'medical register' and the analysis of medical discourse which was discussed above.

2.2.4 Teaching EMP

2.2.4.1 Analysis of Needs

Until recently, EMP has confined itself almost entirely to the needs of doctors. The problems of foreign patients such as immigrants have been relatively ignored.

Out of the 145 textbooks/course materials listed in the EMP Classified/Interactive Bibliography six only are designed for the foreign patient: Richey's Medical Language: A Survival Vocabulary (1980) for North American immigrants and the U.K. based L.E.A. (Local Education Authority) courses in English as a Second Language for immigrant women in ante-natal care (e.g. the H.E.L.P. Maternity Language Course in Leeds by Lewycka, Mares and Whitaker 1980, and other courses in Bolton, Calderdale, Coventry and Milton Keynes).

There is a discernable tendency of EMP materials to concentrate upon the needs of doctors (much less attention given to medical students, nurses and paramedical staff). It is also true that doctors are the professional group most able to pay for such courses. Private and public funding is likely to be more easily available for courses for professional élites than for the less glamorous language needs of refugees and immigrants whose personal, racial and legal problems in health care contexts have been found to be very real indeed (Lewycka et. al. ibid).

Recent work in London and elsewhere (Bradford n.d., Calderdale n.d., Milton Keynes n.d.) has focussed on the needs of foreign immigrants in medical situations: for instance, in an ante-natal clinic involving patients from the Asian community (Weinreich et. al. 1982). Much earlier, Candlin (1970) in research which preceeded EMP course design and implementation found that pregnant women from

the Asian community were requiring forceps deliveries owing to the physical tension and frustration resulting from language inadequacies.

The medical professional refers to this phenomenon of getting the patient to understand and follow medical instructions as the problem of 'patient compliance' (Bal 1981). Compliance is one of the central problems for health workers among the 3 million immigrants living in Britain "many of whom" according to Bal (ibid: 368) "are unable to speak the language".

Vincent summarises the aims of a patient-doctor interaction course termed the 'Ante-Natal English Class' and held at a London maternity hospital:

> "the aim ... has been to help pregnant women from all ethnic groups who have difficulty in understanding or speaking English. The objective of the course is to give the women a greater awareness of health needs and more confidence, so that they can take an active role in their own health care and in that of their unborn child and later in the rearing of their infants. The aim of the teaching is not necessarily to assist the students in becoming proficient in spoken English. Rather, we hope that they will gain in language comprehension, so that they will be able to understand the National Health Service" (Vincent 1980: 4).

The ESL area of English for Medical Purposes within the context of social needs among ethnic minorities has the purpose of enabling these minorities to:

> "operate effectively in British society, to be treated fairly by British people, to achieve security for themselves and for their own communities" (Murray and Chandola 1981 quoted in Furnburgh et al. 1982: 351).

Such rights necessarily imply the provision of the knowledge and skills of the majority community to facilitate these goals. Fisher (1982), in her description of the poor Mexican-American patient further illustrates the problem of 'apparently bilingual' patients:

> "Since the patient spoke English so well both the doctor and I assumed that she understood it equally well. She did not" (Fisher 1982: 71).

Cross-cultural communication problems of patients in health care have not, apparently, received much attention in the EMP literature. But an important theoretical point underlies these problems. As a humanistic science, medicine must deal with a complex network of social and linguistic factors in order to function smoothly. Clinical discourse itself, as Foucault points out (1980), essentially deals with a locus <u>outside</u> clinical discourse in the 'natural environment' of the disease. The 'natural environment' has its own characterisation of illness ('old discourse') whilst the physician stresses clinical data ('new discourse') and this will inevitable produce misunderstanding or conflict.

As an illustration of this point, we can mention Hanson's study of the communication problems between

public health nurses and Spanish American patients in New Mexico. Different belief systems concerning the body and illness, expecially in rural communities were found to have obstructed effective treatement (Hanson 1975).

Vincent reminds us of both the cultural constraints on the immigrant patient and the implication that such constraints may have on motivation and participation in the health care services:

> "For many immigrant women it is possible to get by without English or any knowledge of health care provision in this country. Health advice has been passed down from generation to generation within their own communities. Add to this the suspicion with which the Health Care team - who are perceived as authority figures not to be questioned or confided in - then the reasons for this lack of motivation become apparent" (Vincent 1982: 4).

The EFL situation. Course descriptions in EMP usually take it for granted which local needs are important and detailed descriptions of needs tend to remain unpublished. The attention given to needs is often impressionistic based on the local experience of medical personnel and their reports of language difficulties. The English language teaching programme for doctors at the Université de Nancy II was established to cope with a wide range of needs. Stanchina(1976) describes the needs profile which was drawn up (presumably by means of questionnaire):

" - to understand a native speaker of English,
- to be comfortable enough in English to be able to give a paper at a conference, intervene, or simply engage in informal discussion with the conference participants,
- to increase speed in reading medical journals, etc.
- to be able to write an abstract in English, or to translate one's own abstracts (or articles) into 'acceptable' English (Stanchina 1976: 108-109).

Allwright and Allwright (1977) outlined the needs analysis stage of doctors' courses at Colchester and introduced a questionnaire (twelve items) to inform both the course planner of participants' needs but also to:

"suggest to the prospective students that, for once, a teacher is interested in their particular needs and is prepared to go to some trouble to find out about them in advance" (Allwright and Allwright 1977: 54).

Attempts have been made to classify needs for ESP in general, the most well-known being Munby's (1978) mechanical model of a 'processor' which the course planner can 'plug into' in order to clarify and arrive at a satisfactory and systematic list of target needs. Although Munby is sometimes referred to in EMP literature there are apparently no reports of anyone actually having used it. Seymour (1981) has expressed enthusiasm and a desire to experiment with the Munby model in a school of medicine in Saudi Arabia:

"If this model were used in our faculty it

> would facilitate our task, our identifying the specific language skills needed by our students" (Seymour 1981: 79).

Kourilova (1978) in a Czechoslovak school of medicine also favours, like Munby, an explanatory framework of notions and functions tied to possible needs. Whilst Kourilova has not, apparently, implemented a Munby-type needs framework a more traditional and non-theoretically based method of needs analysis continues to be used in Czechoslovakia: interviews, questionnaires and content analyses.

With similar methods, Adams-Smith (1979) has investigated the English language needs of paramedical students in Kuwait with a view to syllabus design. She concluded that, among other differences, paramedical students had very different needs from medical students, the goals of the former being much more occupationally than academically oriented.

A series of brief 'needs-profiles' have been made in some Middle-Eastern medical schools. Bruce and Brelsforth (1984) have updated Adams-Smith's (ibid) description of Kuwait Faculty of Medicine. Horey (1984) has described the problem of Saudi Arabian students' "immediate needs in adjustment to an English-medium curriculum" (Horey 1984: 3), and Diab and Crocker (1985) have described the EMP programme at the University of Jordan. Their general assessment of language needs is typical of many descriptions of an EMP situation:

> "Because a lot of learning and communication takes place through English, and since medical and nursing activities demand high standards, English is receiving increasing attention" (Diab and Crocker 1985:3).

2.2.4.2 Professional Language Qualification: PLAB and ECFMG

An important area of professional linguistic need among some overseas doctors is preparation for qualifying examinations which control entry to employment or advanced medical training in English-speaking nations.

Specific tests exist for overseas doctors such as the F.M.G. (Foreign Medical Graduate) examination and the P.L.A.B. (Professional and Linguistic Assessment Board) test. The former is designed for doctors who intend to work in the U.S.A. and the latter examination for overseas doctors who, in most but not all cases, wish to work in Britain.

This type of EMP might be described, after Erikson (1976), as preparation for "gate-keeping" encounters. Erikson has described such encounters as life-chance situations in which interviewees seek access to services or career structures and are assessed as to their suitability. The interviewers function as the gatekeepers who control entry to these services and structures.

Some of the English language problems faced by foreign medical graduates in the United States are outlined in the ECFMG (Educational Commission for FMGs) guide (1975 and 1976 quoted in van Naerssen 1985: 67):

> "One point regarding the foreign physician has been made increasingly clear by many publications and regrettably too few national meetings in the past few years - the majority of physicians new to the United States are ill-equipped to initially assume their role alongside American counterparts in residency programs or practice. They often lack the necessary proficiency in English, written or spoken; many fall far short in basic medical concepts and skills; almost all are woefully unfamiliar with professional routines and interpersonal relations in the United States. The results, all too often, have been situations which are potentially dangerous for the patient and are a threat to the emotional well-being of the foreign physician and his accompanying family" (van Naerssen 1985: 67).

In the postwar period, the number of overseas doctors (mainly from the Asian continent - former British colonies - but not from South-East Asia and prosperous Japan) working in British hospitals has been increasing. In the 1970s the General Medical Council, concerned about their level of professional and linguistic qualifications, organised the Temporary Registration and Assessment Board. This led to the setting up of the Professional and Linguistic Assessment Board which instituted formal testing of English language proficiency for all overseas doctors coming to work in Britain. The test is concerned both with linguistic and medical knowledge. In view of the special requirements for this type of testing (involving tests of written English and comprehension of spoken English) instructional materials

have appeared along with increasing demands for test preparation (see Alderson and Ward 1979; Parkinson 1979; Moulds, Bouchier-Hayes and Young 1982). The PLAB test has been a strong stimulus to the field of EMP particularly from the point of view of doctor-patient communication analysis and EMP materials writing.

Since its introduction in 1975 PLAB has been taken by a growing number of candidates. There were 2,420 in 1979 and 3,300 in 1980. (Smith, 1980, reported that there were about 66,000 doctors working in the National Health Service in 1978. Of these, about 18,000 or one-third of hospital doctors and one-fifth of general practitioners had qualified overseas). It is reported that only 40% of those who take PLAB pass.

What countries do overseas doctors come from? Smith's study (ibid) states that two-thirds are from the Indian subcontinent, a tenth from the white anglophone countries and a tenth from Arabic countries. About 85% of the overseas doctors in this cross-sectional study carried out between September 1977 and February 1978 came to Britain in order to further their medical training or career and only 7% came to stay permanently - although many stayed longer than expected.

In view of the expense and time involved in preparing for the PLAB test - many doctors spend long periods trying to pass the exam and take it more than once - the question arises why it should not be possible to take the test before coming to Britain? This is the case with the ECFMG

test in the United States where candidates can prepare and sit the test overseas.

But if the administration and preparation of such tests were conducted overseas this leads to the question of the extent and quality of English language training overseas (within and outwith the formal medical education systems). What courses and teaching materials exist for learners of English with various types of medical purpose in mind and not simply exam preparation?

2.2.4.3 Materials and Methodology

.1 Course Descriptions

Most courses in English for medicine in the U.K. and overseas seem to concentrate on many types of skills in reading and writing, listening and speaking. The approach of the course, widely reported, at CESC (Colchester English Study Centre) deals with one aspect of professional activity:

> "for practising doctors (usually) European who want to improve their English in order to take part in international conferences more effectively" (Sheerin 1979: 31).

Several published accounts have described the technique of the simulated case conference (Allwright and Allwright 1977; Currie, Sturtridge and Allwright 1974; Sheerin 1981, 1982). In 'real life' simulations the learner/presenter gives the history and condition of a patient who

is posing problems of diagnosis, management and treatment. Language practice occurs in three stages: preparation, simulation and feedback. This is divided into the following activities: (1) preparation in the language laboratory during which time the learner listens to a recording of the clinical report (with worksheet for note-taking), (2) group discussion on semantic, grammatical and lexical items of the report, (3) one doctor is selected to present the case, (4) each member of the group gives a differential diagnosis, (5) the instructor provides the actual clinical solution, (6) final discussion.

Several writers have analysed the characteristic rhetorical features of presentations (Dubois 1981, Bullard 1981) or the role of poster sessions at conferences (Dubois 1984, van Naerssen 1984). Dubois (1980, 1984) has noted significant aspects of the role of slides, for instance, in regulating or directing the course of a presentation rather than simply accompanying it as a useful accessory. The medical presenter as it were 'speaks to the slide'.

An important function of conference-simulation teaching, apart from the language practice, is the psychological merit of allowing professional esteem to remain intact in a possibly uncomfortable participant-role (teacher-student) context.

The medical profession itself has attended to the problem of the special communication skills required for oral presentations at medical meetings (though without

separate reference to the special problems of non-native presenters). There is Calnan and Barabas' (1981) practical guide to "arranging sequences logically, and using the correct language, being selective in material using visual aids" (Calnan and Barabas 1981: Introduction). Similar 'guides' are Zollinger et al. (1961) and Hawkins (1964). Shephard (1969) has produced a useful index - more detailed than the Colchester schemata - for the evaluation of performance in oral presentations (e.g. pronunciation, register, style, etc.) and an "instrumental device for use in a course on communication skills in medicine" (Shephard 1979: 1404). There is growing concern among doctors that more attention be given to public speaking skills, particularly in the light of studies such as Kraft (1976) whose objective findings suggested that fewer than half of the speakers at a surgical meeting were able to communicate effectively.

The general medical English courses at C.R.A.P.E.L. (Centre de Recherches et d'Applications Pédagogiques en Langues) in Nancy teach conference preparation under the category "oral expression". The course, described in Stanchina (1976), includes "written expression", "translation" and "abstract writing". At a time when English language teaching does not seem to favour the pedagogical use of translation, Stanchina justifies this use:

> "not as a means of discovering latent grammatical errors but rather as a means of helping the group

> to improve their skills in translating their own works from the French" (Stanchina 1976: 116).

The possibility of adapting the grammar-translation method employed by medical English teachers in Japan in the way used at Nancy has also been put forward by Maher (1980).

Abstract writing is also a feature of some EMP courses. In the C.R.A.P.E.L. programme, abstracts from American journals are furnished by the learners and then studied in order to identify certain semantic and rhetorical features. This is deemed necessary:

> "since group members who had already written abstracts admitted to having no explicit description of what information should be included or how it should be presented" (Stanchina 1976: 117).

.2 Teaching Materials in EMP

EMP materials are usually either locally produced materials or materials from the 'general market'.

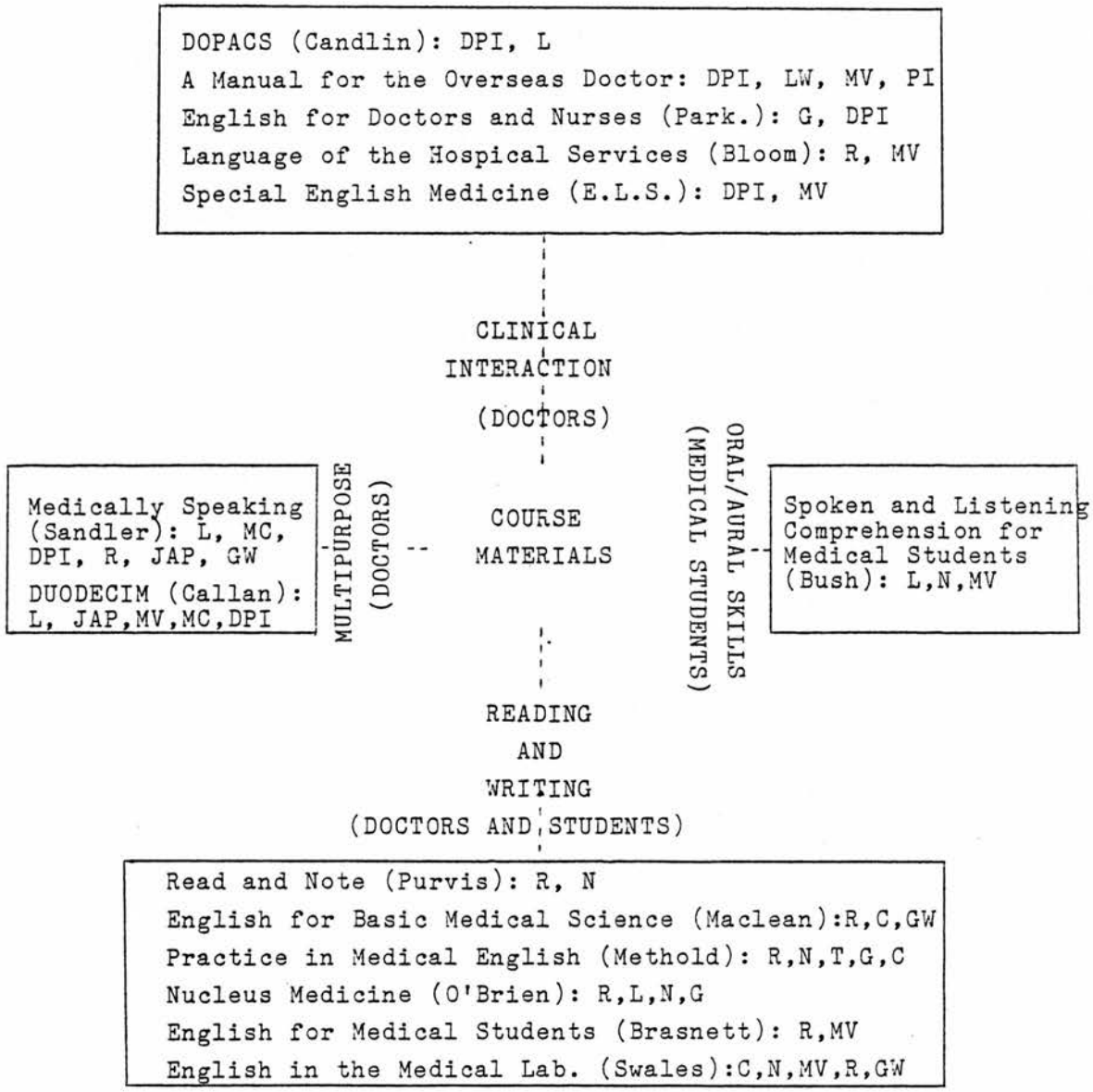
(i) Range of Skill Areas

What EMP textbooks teach across a broad spectrum of skills is shown in Figure 2.3.

The range of topics dealt with in these books includes: note-taking, letter-writing, reference grammars, reading and writing, and other areas.

A Manual of English for the Overseas Doctor (Parkinson 1980) is the product of a London-based medical English programme for overseas doctors in Britain and is possibly

FIGURE 2.3 Skill Areas Practised in a Selection of EMP Textbooks



Key to Symbols: DPI (doctor-patient interaction); NPI (nurse-patient interaction); MV (technical vocabulary); MC (medical conference); R (reading skills); JAP (journal article presentation); G (grammar); N (note-taking); LW (letter writing); L (listening); GW (guided writing); C (composition); T (translation); D (discussion skills).

the most widely known EMP textbook being now in its 3rd edition. This detail is important. Swales (1982) has pointed out that the 'textbook problem' in ESP is precisely that authors often lack the opportunity, owing to market forces or publishers' desire for 'new' materials, to revise their materials after they have been duly tried and tested in the classroom. Conversely, Parkinson states in the preface to the second edition:

> "Many people have helped in the preparation of the second edition of the Manual. Ever since its appearance in 1969, overseas students and English doctors and nurses have been sending me new words, phrases, corrections and suggestions"
>
> (Parkinson 1975: Preface).

The Manual is designed for doctors who intend to work in Britain. Presupposing a fairly advanced level of language competence, the book deals with general information on the National Health Service (U.K.), hospital organisation and personnel, and has several chapters of specific language material: phrasal verbs, abbreviations, colloquial English used by patients, and lists of idioms for parts of the body.

Very similar to Parkinson's Manual, the textbooks of Shao (1978, 1981a, 1981b, 1983, 1984) - easily the most prolific EMP textbook writer found in this study - have a strong reference-book flavour. Through letter writing practice, for instance, (1982) Chinese doctors are advised on the ways and means of getting overseas to study and do research. (Shao is based at a medical college in the south of the People's Republic of China).

In Parkinson (ibid) the authentic case-histories (with explanatory gloss), though useful for lexical study have no accompanying practice exercises. It seems questionable to suggest that a single short interview might present more than a sprinkling of 'registeral vocabulary' as Parkinson, in fact, implies:

> "Case history no. 9 was taken in a Family Planning Clinic and gives a good selection of vocabulary used in that branch of medicine" (Parkinson ibid: 116).

Many works like the above (and Parkinson's other coursebook English for Doctors and Nurses (1978) deal fairly thoroughly with the doctor-patient consultation. In contrast, Practical Surgery (1984) and Practical Medicine (1984) deal also with doctor-doctor communication (attending - intern dialogue) as well as (unusual for EMP textbooks) triadic situational dialogues (attending-intern-patient). Doctor-doctor conversations appear in Ciercerska et al's English for Medicine for students in Poland (1982) and also in Sandler's (1984) Medically Speaking.

A different approach from the largely reference book format of Parkinson and Shao, on the one hand, and the lexico-structural methodology of English Language Services' (1984a, 1984b) material, on the other, is that which considers the doctor-patient situation as a more complex, dynamic event exploiting rhetorical as well as lexical and grammatical features.

DOPACS materials (Doctor-Patient Communication Skills) were developed at the University of Lancaster (Candlin, et

al. 1977) represent a detailed set of teaching materials for the clinical consultation. The materials were designed for U.K.-based overseas doctors and are different from other earlier materials in view of the systematic observation and analysis of clinical consultations which laid the groundwork for course design. Consultations were audio-visually recorded in the Casualty Departments of 20 British hospitals and subsequently analysed by a team of applied linguists. There was additional output from real-time analyses of consultations and formal and informal enquiries into doctors' actual communicative behaviour.

In its desire for authenticity a battery of instructional aids accompany the course: audio-tape, illustrations, module materials, videotape, slides. This contrasts with the print-oriented packages (sometimes with cassette tape) of most other EMP materials in this field.

What is futher noteworthy in the DOPACS approach is the conscious implementation of a particular view of language learning - a theoretical as well as practical viewpoint. DOPACS' realisation of the implications of a sociolinguistic analysis of the clinical encounter appears to be in terms of a <u>response</u> to the perceived needs of the non-native physician. Candlin defines the approach in this way:

> "A communicative approach to the learning of doctor-patient communication skills implies for us a clear awareness of the nature of the consultation as an event, involving an appreciation of its participants and the networks of their

> communication; an appreciation of the doctor's and the patient's communicative objectives; an ability to handle messages transmitted on a variety of interrelated channels, involving a consequent mastery of interrelated and chained skills" (DOPACS Teachers' Book - Candlin 1977: 46).

(ii) Technical Reading and Writing

Some coursebooks are multi-purpose both in target audience and in the range of skills practised. Sandler's Medically Speaking (1984) is intended for:

> "doctors, medical students and others with a professional interest in medicine who need to improve their English" (Sandler 1984: 3).

The learner may need to:

> "read medical journals in English, or write to an English-speaking colleague, or listen to English speakers at medical conferences, or deal with English-speaking patients" Sandler 1984: 5).

Several textbooks deal with the improvement of technical reading skills. Types of reading textbooks reflect a division between the structural type which proceeds from a grammatical and lexical observation of the text (viz. Salagar's frequency analyses of medical English vocabulary which seek to provide a basis for the construction of EMP readers - Salagar 1983) and, on the other hand, the inter-sentential dimension of rhetorical relationships within the text. Rhetorical function analysis has been an important aspect of this approach (in textbooks such as Maclean 1975,

and theoretical commentaries such as Maher 1980, Bruce 1984, Salagar 1983; the research of Selinker, Trimble and Vroman 1972 being an important catalyst in this approach).

Table 2.3 describes a taxonomy of features of the various textbooks mentioned in this section.

Within a specifically EM-EP context, Purvis' Read and Note: English Study Skills for Science and Medicine (1978) is designed for the needs of students of medicine, pharmacology and biology "in institutions where English is the medium of instruction" (Forward). Although this aim might seem to exclude medical students in EFL situations such as Japan or France there seems to be no reason to limit the use of the materials too categorically. The book valuably stresses the importance of purposeful reading by teaching devices such as skimm reading or looking through a text to get the gist of it (my definition). Purvis' own definition of 'skimming', however, gets him into trouble:

> "Skimming... is suitable for passing over material of little or no relevance in passages of overall usefulness. In contrast, passages that are completely irrelevant are skipped" Purvis 1978: Forward).

But as Wingard points out in a critical review of Purvis (Wingard 1978: 29) how can you determine which passages are useful or irrelevant until you've skimmed?

Bush's (1981) substantial EM-EP materials for Finnish students (University of Helsinki) also include note-taking practice for lectures and talks but accompany a course

TABLE 2.3 Matrix of Coursebook Features in Some Reading/Writing Textbooks

		PURVIS (1978)	METHOLD (1975)	BRASNETT (1976)	O'BRIEN (1979)	MACLEAN (1975)	SWALES (1980)	BLOOM (1976)	SANDLER (1983)
1	Short passage (less than 100w)	+	+	+	+	+	+	+	-
2	Extended reading (500w upward)	+	+	+	+	+	-	+	+
3	Segmented reading passage	+	-	-	-	+	-	-	-
4	Pre-questions/pre-reading	+	-	-	+	+	-	-	-
5	Post-questions (comprehension)	+	+	+	+	+	+	+	+
6	Graphs and symbols analysis	+	-	+	+	+	+	-	+
7	'Information transfer' exercise	+	-	+	+	+	+	-	+
8	Medical Vocabulary practice	-	-	+	+	+	+	-	-
9	Pronunciation practice	-	+	+	+	-	+	-	-
10	Glossary of general vocabulary	+	+	+	+	-	-	-	+
11	Grammar exercises	-	+	+	+	+	+	+	-
12	Stylistic analysis (journals)	-	-	-	-	-	-	-	+
13	Guided writing	+	+	+	+	+	+	-	+
14	Guided discussion	-	+	+	-	-	-	-	-
15	Review (end of unit or book)	+	-	+	-	-	-	-	-
16	Practice with numbers/statist.	+	-	+	+	+	+	-	+
17	Grammatical explanation	-	+	+	-	+	+	-	+
18	Teacher's notes appended	+	+	-	+	+	+	-	-
19	Translation practice	-	+	-	-	-	-	-	-
20	Guided listening practice	-	-	-	-	-	-	-	+
21	Index	-	-	-	-	-	-	-	-
22	Glossary of medical vocabulary	+	-	+	-	-	+	+	-
23	Cassette Recording	-	-	-	+	+	-	-	+
24	Note-taking practice	+	-	-	+	-	+	-	-

designed as a whole for speaking and listening comprehension. A very varied range of activities includes: note-taking, listening comprehension, discussion procedures, modes of oral presentations and self-evaluation procedures.

I have already noted the emphasis on doctor-patient interacitons in EM-OP course materials. Much of this is targeted at U.K./U.S.A. - bound doctors. But Brasnett (1976) in his textbook English for Medical Students also recognises the wider fact that:

> "There are already several books available which are designed to help overseas doctors improve their skills in English in order to conduct their day-to day clinical practice, but little attention has been paid to developing reading skills in the field of medicine" (Brasnett 1976: Introduction).

A strictly EM-EP oriented textbook, Brasnett's work is designed to train medical students to read medical literature in English. The 28 reading passages (maximum length 450 words) are authentic (extracted from standard medical textbooks) and are thematically presented: sections on nutrition, bacteriology, toxicology, and so on.

The selection of a whole series of medical extracts, classified in subject sections, seems to be a useful strategy in recycling lexical items throughout several extracts from the same discipline. Fanning (1977) points out another advantage to this strategy:

> "Where two or more passages follow on from one another, as is often the case, there is scope not just for intensive study of isolated extracts

> but also for tasks closer to the reality of having to deal with textbook information that extends over a few pages" (Fanning 1977: 29).

In the same genre as Brasnett, Methold and Methold's (1975) Practice in Medical English approaches the problem of reading comprehension:

> "to provide students who are learning English as an aid to their medical studies with examples of the kinds of English prose style that they will meet in their medical textbooks, journals, lectures and case histories" (Methold and Methold 1976: Introduction).

But the authors also extend this target group to include, curiously, medical interpreters. The reason is put forward that:

> "most of the extracts present problems in translation identical with those which interpreters must encounter at international medical conferences" (Methold and Methold: ibid).

But no specially arranged practice is apparent in the textbook and no further mention is made. It does raise the issue - which is conspicuously absent from EMP literature - of the training of medical interpreters. Who does it and how is it being done? Whilst conducting W.H.O. fieldwork in the Chengdu Province of China, Strasser noted that several individuals in Szechuan Medical College were, in fact, not training as physicians but as "translators and interpreters alongside the medical students" (personal communication 1983).

(iii) Medical Vocabulary

Within ESP generally "a lack of a coherent approach to vocabulary" is termed by Skeldon "one of the weaknesses of current published materials" (Skeldon 1977/78: 9). Earlier EMP textbooks, however, did possess a seeming committment to technical vocabulary teaching. But if the problem is a lack of 'coherence' then the ambivalence expressed in the book by Methold would seem to fit the description. Here, there is the warning to the student that:

> "medical writing relies heavily on specialised vocabulary a great deal of which is not English but Greek" (Methold and Methold 1976: vi).

But at the same time, no practice is provided in this area and, in fact, medical terminology is specifically excluded from the extensive glossaries at the end of each chapter. Presumably, the belief is that the medical student will 'pick up' this vocabulary during his studies, whilst the doctor already knows it.

The 'pick-it-up-as-you-go-along' view is not shared by Beitler and McDonald (1982) in English for the Health Professions whose graded-level approach to reading comprehension assigns medical vocabulary a high profile by means of "rigorous vocabulary presentation and drill" (Preface). It also divides practice between Greek and Latin derivations and so-called 'high frequency' medical vocabulary.

It is significant that textbooks designed in local

situations overseas do stress formal practice of medical terminology. Ciecierska et al. (ibid) include dictionary exercises (matching words and definitions, listing terminology) in their materials for students at the University of Warsaw. Yeliseyeva and Yershova (1963), Tylkina (1974) and Maslova et al. (1974) also deal specifically with the problem of learning medical vocabulary among Russian doctors and students.

Lachowicz's Using Medical English (1971) sets out actively to teach medical vocabulary to students in Vietnam (University of Saigon). The author's method contrasts with the traditional approach which usually analyses morphological features of technical words, i.e. prefixes, suffixes, and roots. Lachowicz sets up "associative" (i.e. semantic) networks in medical vocabulary in order for the student to practise discrimination between members of lexical sets as in the following example:

> "In each of the following groups of words one word does not belong..underline the word that doesn't belong in the group:
>
> 1. swelling, lump, bump, mass, discoloration.
> 2. ribs, skull, spine, femur, bone, kneecap, hair.
> 3. stain, wart, blotch, discoloration, spot, mark".
>
> (Extract from Lachowicz 1971: 48).

And yet, the teaching of medical vocabulary has sometimes taken a back seat and has been regarded as an "ultimately trivial task" (Strevens 1980 quoted in Maher 1984). As I have written elsewhere:

> "Without wishing to revert to the days of word lists, I think we need to reconsider the relation of technical terminology to the text, and ways in which beginning scientists can recognise and manipulate such terminology accurately" (Maher: ibid 52).

(iv) Medical Translation

A number of books incorporate translation as a practical exercise (Mackin and Weinberger 1962, Maslova and Veyushteyn 1976, Coude and and Coude 1982, Ciecierska et al. 1976). Courses such as that described in Stanchina (1976) practise the translation of journal abstracts, for instance. Methold and Methold's strategy suggests writing first in the native language then re-translation into English:

> "Write an imaginary case history, as told to you in your own language by an uneducated patient. Rewrite this case history, in English as for a medical journal" (Methold and Methold 1974: 124).

The grammar-translation method itself is probably a common feature of language courses the world over. But it is worthwhile noting some of the potential problems encountered in the field of professional medical translation. Newmark (1976, 1977, 1979) highlights some of these difficulties:

> "(1) The medical language register in European languages is a jungle of synonyms. (Brucellosis has, for instance, at least 25 linguistic synonyms in English).
> (2) There is the problem of standardised lexis

(terminology, agreed hospital jargon, etc.) and non-standardised language coloured by cultural attitudes and therefore in the interstices of translation".

(3) The problem of misprints.

(4) The problem of faux amis.

(5) The difficulty of technical usage, "the most difficult problem for translator who is neither medical nor paramedical himself" (adapted from Newmark 1976: 1407).

For the EMP instructor proposing to employ translation in the classroom Newmark's useful list of hints is of relevance. For example:

(1) Translate the title last: " Because it should designate the subject or the intention of the paper or both, and may not do so in the foreign text".

(2) "Distrust any translated abstract at the end of a paper..... but trust the English titles in the bibliography which should give some of the theme words.

(3) Never accept a bilingual or multilingual dictionary as an authority. It often contains too many synonyms without the context, obsolete words and 'dictionary words'" (adapted from Newmark 1977, 1979).

Newmark also notes that "the best medical dictionaries" (Dorland, Stedman, Gould) are in American English (Butterworth's to be used for British spelling and usage).

But there are theoretical problems in the regular use of translation in an EMP context.

1. Firstly, there is the problem of accuracy. This applies particularly to the medical student whose knowledge

of the subject is likely to be limited and is, therefore, ignorant of the "sprachsituation" of particular technical usage. How does/she know if this is the right translation - if no solution or authority is available to check? The pitfalls of 'unprofessional' medical translation are noted in the following example from a UNESCO study of documentation and scientific terminology and might apply equally to amateur translation in the EMP classroom:

> "Generally speaking, if in referring to a medication given to a child patient a German text states es ist eine Salzlosung and the translator states 'it eats hydrochloric acid' it will be difficult to decide whether the dangers to future patients with a comparable ailment is occasioned by the mistranslation of ist or of Salzlosung" (UNESCO 1957: 34).

2. Secondly, there is the problem of the quality of translation. Slissberg (1973) in this respect mentions the large number of archaisms "possibly outdated but which still often retain their value as basic documents" (quoted in Nemark 1977). But how is the learner supposed to be able to make such subtle distinctions? How is the quality of medical translation monitored and by whom? Surely not the English teacher, in the final analysis?

3. Thirdly, there is the difficulty of translating from some languages which may preoccupy the learner of English with the activity itself and prove time-wasting and distracting. Gerr, a translator and lexicographer of technical Japanese has pointed out, for instance:

> " The Japanese sentence is thus seen to be a sort of miniature 'detective story', which, like its better known counterpart too often leaves its reader in a fog till the bitter end. One is forever forced, in translating technical Japanese, to make frequent passages up and down the line of the whole sentence in order to piece together the scattered ideas in their proper relationships; to waste mental energy in traversing the same linguistic 'path' several times in order to complete a single corresponding passage along a chain of ideas under consideration" (Gerr 1944: 18).

4. Fourthly, in what way does the practice of translation add to the comprehension of medical text if, as Methold and Methold (ibid) maintain, the learner is already supposed to have mastered the extract in other ways - such as comprehension checks, and exercises? Translation of medical texts may prove less effective in improving English competence than encouraging dependence upon the practice of translation itself.

(v) First and Second Generation EMP Textbooks

During the 1960s and early 1970s there appeared the 'first generation' of EMP textbooks of both the EM-EP and EM-OP type. Special English Medicine, 1966 and Mackin and Weinberger 1962 (see also Shao's first edition of his 1982 work) were followed by textbooks which adopted similar presentations focussing on technical vocabulary practice, grammatical/structural exercises and extended reading

practice or doctor-patient dialogues. There was also the EMP 'reference book' approach in Parkinson (first edition - 1969) and Yeliseyeva et al. (1963).

In the late 1970s a new emphasis emerged in medical textbooks towards making the learner more aware of the rhetorical patterns that occur in language use. Less emphasis came to be placed on sentence-grammar based teaching procedures. Here, the link between EMP teaching and the sociolinguistic frameworks that were noted in sections 2.2.1 and 2.2.2 becomes clearer, in particular, the role of medical discourse analysis. Bruton et al. (1977) summarise these connections thus:

> "Course designers who aim to make learners aware of the dynamic patterns of communication can turn to discourse analysis for help in isolating rhetorical structures. Analyses of this kind can guide the materials writer in his attempts to transmit to the learner salient characteristics of the discourses he will have to manage" (Bruton et al. 1977: 298).

Reflecting the methodological emphasis upon language use rather than language form, Maclean's (1975) English in Basic Medical Science claimed "not to teach grammar but to show students how to use the grammar they already know" (Preface) and to achieve this within the framework of applied linguistic theory - in this instance, the 'communicative approach'.

The rationale for this second generation of EMP materials focussed to a great extent on the analysis of

the regular rhetorical rule operations in written and oral text. O'Brien's (1979) Nucleus: Medicine followed these lines by adopting a rigorous notional-functional approach. Although the multiple usages 'notional' 'functional' 'communicative' frequently occur in this 2nd generation literature (some uncertainty exists as to their precise meanings and they are sometimes employed interchangeably) they reflect as much a 'mood' of language teaching as a pedagogical theory. The editors' preface to Maclean (ibid) reminds the learner:

> "The approach is one which recognises that learning a language is not merely a matter of learning sentences and vocabulary but must also involve an understanding of how people use these linguistic forms in order to communicate. Our purpose is to make students aware of the way English is used in written communication and thereby help them develop techniques of reading and to provide them with a guide for their own writing" (Widdowson, Mackin and Allen 1975: xi).

English for Basic Medical Science was criticised for not conforming to its 'communicative' claims. Practice material was said to be over-controlled to the point of requiring little more than mechanical responses rather than in accord with the communicative aim of involving the learner in the reasoning process in order that interpretation might take place. Honeyfield criticised the materials for their "failure to get beyond the traditional preoccupation with detail" and referred to their "characteristic emphasis on the minutiae of text" (Honeyfield 1975: 42-44).

The book by Maclean highlights the problem faced by all EMP textbooks designed for the ideal, medical, speaker-hearer rather than for a specific group of learners. Many of these textbooks arise from a particular situation and cluster of needs but then become ungeneralisable and inapplicable when distributed to a wider audience. Adams-Smith (1979) alludes to this difficulty of localising 'general' EMP textbooks when trying to use English for Basic Medical Science at the University of Kuwait:

> "In the medical faculty at the University of Kuwait, English is taught at two levels: to pre-medical and paramedical students over a period of four semesters, and to groups of postgraduates and hospital residents. We have considered English for Basic Medical Science for use in both contexts. Since the premedical students take physics, chemistry, biology and maths concurrently with English and have not at this point begun anatomy and histology, the sheer volume of new vocabulary would make the book very frustrating. Qualified physicians, on the other hand, no matter how weak their English, tend to be bored if not insulted by passages describing the basic fuels of the body and the gross anatomy of the trunk. It is not easy to see at what point in a medical course these materials can be successfully used" (Adams-Smith 1979: 24).

(vi) Types of Informant in EMP Materials Production

Doctors and other medical scientists feature prominently in EMP materials as editorial consultants. Of note is

Selinker's (1979) article on the use of informants in the elicitation of meaning in scientific (genetics) writing. The EMP informant lends varying degrees of authenticity to the course or textbook.

1. At a basic level, doctors' help is acknowledged in textbook content. Many authors have consulted the 'medical expert' on particular points (e.g. Sandler's "interminable questions" to the "medical advisor" in Medical Speaking). Other informants have read the text and provided "helpful comments" (Nucleus: Medicine) or have actually suggested materials such as reading passages (Parkinson 1976). This type of informant activity may be termed the level of consultative informant.

2. In other cases, the informant may be more deeply involved as in the specialist assistance from clinical and nursing staff in the course described by Adams-Smith (1979). Here the medical advisor functions as collaborative informant.

3. In the case of the author informant the medical person is engaged as a co-opted coursebook writer. Practice in Medical English (Methold and Methold) is, for instance, co-authored by a doctor and a language teacher.

4. In the case of the informant planner the medical person may be one of two categories: the native-speaker doctor who has observed a set of language

problems and has devised pedagogical materials accordingly; the British doctors' course for Finnish medical personnel falls into this category (Locke et al. 1975). Alternatively, the non-native doctors who have experienced personal need for some sort of specialist English instruction have sometimes written materials themselves! Examples of this are: Okuda 1969 in Japan, de Matos 1979 in Brazil, Coudé and Coudé 1982 in France.

The implications of the informant-planner inspired activity for EMP will be discussed in more detail in the next section.

(vii) Intra-professional Language Teaching in EMP

For the applied linguist, there is irony in the fact that doctors might be writing ESP materials and co-opting language teachers as informants. More often, these authors - especially the non-native speakers - use other doctors as informants and consultants on language and technical content.

Informant-planner materials illustrate types of need as experienced directly by professional learners. But the pedagogical method is often unimaginative - word lists, comprehension exercises, or, as in Okuda's Handbook of Medical English (1969) grammar and translation practice.

The authors of L'Anglais Médical (Coudé and Coudé) a team of paediatricians compiled their textbook during a stay at the University of California and the textbook's

contents reflect attempts to tackle the problems of the French-speaking doctor in an American hospital. Such problems include the following:

> "Alors que la lecture quotidienne des grandes revues internationales donne l'illusion de maîtriser l'anglais médical. Le médicin immergé dans un hôpital universitaire américain est confronté a deux problèmes, comprendre et être compris par le malade, l'infirmière, le technicien ou le chef de département" (Coudé and Coudé 1981: Introduction).

The authors solution to these problems would probably strike the modern EMP teacher as unorthodox: memorization of lists of modern American colloquial expressions, a knowledge of abbreviations, and spoken fluency exercises, pronunciation practice and memorization of question forms to the patient, nurse, or attending doctor.

The final section of Coudé and Coudé includes a 'phrase-book' section dealing with everyday encounters and the normal problems of being a foreign visitor abroad: "at the airport, looking for a car, salutations and greetings, looking for a house, the telephone" and so on. The authors' recognition of key non-medical language problem areas contrasts with the usual practice of EMP language teachers.

Earlier than this textbook came DUODECIM. In 1971, the Finnish Medical Society DUODECIM decided to hold a small conference on medical writing and medical English in Helsinki and initiated one of the most interesting experiments in intra-professional language teaching. The

main motive for the project was to improve the quality of Finland's English language journals: Annals of Clinical Research, Annals Chirurigiae et Gynaecologiae and Medical Biology. Collan et al. (1971) reported that what began as a seminar on writing developed into a large-scale teaching operation at various centres in Finland involving doctors from Britain. The revised courses that followed over the next three years included several components: (1) lectures on medical writing, (2) panel discussion of medical topics, (3) language supervision in small groups groups, (4) language laboratory concentrating on pronunciation practice of medical terminology, and (5) 'clinics' in which instructors spent time with individuals in the preparation of their own papers in English.

Inter-doctor language teaching exemplified by the DUODECIM project possesses some unique characteristics. In DUODECIM learners are referred to constantly as "the audience" and what the language teacher commonly refers to as 'classroom interaction' is termed in the DUODECIM literature as "audience participation". But a teaching programme constructed in this highly formal manner may provide advantages which the lay EMP instructor would find difficult to achieve. This point is developed in 2.2.4.5 below.

The other implication of the DUODECIM for EMP generally is the belief among project members that they were, in teaching medical English, working alone in the field: "courses in medical editing and medical English are relatively new and infrequent" (Collan et al. 1974: 627)

and "courses of English to specialists are rare" (Collan et al. 1975: 7). The innovatory nature of the project itself is indisputable but the lack of cross-disciplinary knowledge between applied linguistics and medical communication studies is apparent - as suggested in the tentative statement:

> "We suggest that courses in medical English might be useful for both medical students and postgraduate doctors outside English-speaking countries" (Collan et al. 1975: 627).

2.2.4.4 EMP Testing

Excepting the body of literature on PLAB and FMG testing does not usually figure in course descriptions. Stanchina (ibid: 108) describes EMP testing at Nancy:

> "In order to verify that the proficiency levels were indeed sufficient, a modified version of the C.R.A.P.E.L. placement test was given, that is, the usual general aural comprehension test plus an additional exercise based on a B.B.C. radio discussion of cancer, a test in written comprehension and a writing exercise calling for a brief account of each individual's work or research. The test allowed us to set up a group that was more or less homogeneous from a linguistic point of view, although not so from a medical point of view" (Stanchina 1981: 49).

DOPACS shows evidence of systematic testing: an indication of student placement in terms of communicative need is provided by a Diagnostic Test. This makes up a

battery which includes Post-Tests. The 'P-Test' is the final part of a module and is designed to discover whether specific learning objectives have been reached.

The testing of fluency in clinical consultation is organised by DOPACS around the correct and efficient use of three types of function at work in the event: cognitive function (e.g. question, interrogate, direct, etc.), affective function (e.g. reassure, leave-take, etc.) and metacommunicative function (e.g. repeat, accept, apology, etc.).

For a similar category of learners - overseas dental practitioners wishing to work in Britain - Coleman (1980) reports having considered ways of bridging the gap between discrete point and pragmatic integrative tests:

> "an integrated programme for overseas dentists is proposed which would aim at developing dentists' sensitivity towards communicative techniques and, at the same time, would allow continuous assessment of their actual performance" (Coleman 1980: 3).

2.2.4.5 Teacher Training in EMP

A sense of insecurity and uncertainty can be sometimes observed among EMP teachers regarding their effective role as lay persons teaching 'medical English' among medical professionals. Is the EMP teacher well-enough prepared and trained for the job? As Allwright and Allwright state: "things can go badly wrong if the teacher is medically naive and ill-prepared" (ibid: 62).

Occasionally, the specialist informant who is co-opted onto a teaching programme harbours suspicions about the language teacher's motives. Consider the view of the DUODECIM team of doctors:

> "We believe that it is essential to have teachers entirely at home in medicine and English and who have some experience in writing and lecturing" (Collan 1974: 629).

Again, the doctors charge that:

> "Too few teachers combine enough experience in the use of the English language in general and knowledge of the speciality in particular" (Locke et al. 1975: Cover).

Is the teacher trying to teach my subject? What if he/she gets the medical bits wrong and misleads the learners? Am I dealing with a medical manqué? These and other suspicions may lead to uncomfortable relations between applied linguists and the medical informant. Stanchina admits that her own course was devised:

> "to provide an initial riposte to all those who would contend that none but the specialists themselves (in this case doctors whose native language is English), are capable of teaching, or ensuring the acquisition of specialised English" (Stanchina ibid: 108).

Sheerin has suggested that the biggest problem for the EMP teacher is:

> "the teacher's lack of confidence in her ability to cope. How does begin to prepare

> oneself for such sessions, short of taking a five-year course in medicine?" (Sheerin ibid: 40).

Strevens perceptively locates three key sources of the problem:

> "first, the unfamiliarity to teachers of the language of the various specialities; second, the fear that through ignorance of the subject speciality they may make elementary mistakes which would diminish their confidence, reputation and credibility; and third, the lack of teaching materials, which means that teachers often have to make their own" (Strevens 1978: 99).

2.3 English as an International Language

2.3.1 The Spread of English

In addition to objective measures such as geographical dispersal, the economic, military and political influence of English-speaking nations and the total number of native speakers we can assess the relative importance of English by examining its functional or 'vehicular' load. This is explained in the schemata suggested by Quirk, Greenbaum et al. (1972) as the extent to which English is a specific medium of science, literature and education.

The notion of 'language spread' is a useful framework within which we can assess the vehicular or functional role of English. Language spread has been defined by Cooper (1982) as:

> "an increase over time in the proportion of a communicative network that adopts a given language or language variety for a given communicative function" (Cooper 1982: 6).

The term 'language spread' is metaphorical in the sense that it is people who acquire languages and not the reverse. 'Language decline' or 'decay', on the other hand, refers to a shrinkage in the number of speakers or situations in which speakers use a language.

Language spread in generally described according to two categories: (1) language spread itself (what Cooper calls the growth of language 'functions') and (2) language fission or the division of a given language into local varieties. Language fission occurs at the formal level of grammar, lexis and phonology and contributes to the diversity of a language. Several linguists have introduced the notion of local forms of English (LFEs) or Englishes to describe non-native varieties of English (Pride 1982, Bailey and Robinson 1973, Kachru 1965, 1966, 1982, Strevens 1981, Spencer 1981, Brosnahan 1963).

Language spread refers to the purpose for which a language is used. When a language "begins to roll" (Davies 1985) it extends outwards in the direction of identifiable contexts or communicative networks such as scientific,

technical, or educational information and training processes.

2.3.2 Definitions of English as an International Language

Several definitions have been offered by linguists for the use of English as an instrument of communication across languages:

lingua franca
language of wider communication
an international language
an auxiliary language
an additional language of communication
vehicular language
international auxiliary language

A term in common use is 'lingua franca' defined by UNESCO as:

> "a language which is used habitually by people whose mother tongues are different in order to facilitate communication between them (UNESCO 1953: 6).

Samarin (1968) later subdivided this broad definition by distinguishing 4 types of lingua franca: (1) a trade language for commercial transactions, (2) a contact language whose use is not habitual, (3) artificial or auxiliary languages such as Esperanto or Novial, and, finally, (4) an internationally used language.

The spread of English could be described by any three of Samarin's lingua franca types especially since they seem to strongly overlap. It seems difficult, for instance, to distinguish between a language of 'trade and commerce' and

an 'international' language when both refer to the same international commercial event. "Contact language", in French usually translated as 'language vehiculaire', recalls Quirk's descriptio (above) of English as a "vehicle" of information, etc.

Stewart (1962: 19-20) prefers the term "language of wider communication" (LWC). Included in this broad category which may involve educational, religious, literary and other uses, are a collection of 7 societal functions. This is the forerunner, perhaps, of Fishman's notion of 'domain'. Fishman et al. (1977) for most of their studies on the spread of English employ Stewart's term referring to "the use of language for wider communication across language boundaries" (Fishman et al. 1977).

Smith (1976, 1983) presents the combination "English as an international auxiliary language" (EIAL) and explains that:

> "My operational definition of an <u>international</u> language is one which is used by people of different nations to communicate with one another. English is the most frequently used international language. My operational definition for auxiliary language is a language, other than the first language, which is used by nationals of a country for internal communication. English also frequently serves this purpose" (Smith 1983: 1).

2.3.3 English as an Intra/International Language

Recently, there has been interest among linguists and educators in the spread of English viewed in a bi-polar sense which recognises the existence and implications of the domestic use of English as a second or third language (intranational) and the use of English for international purposes. (Smith 1981, Strevens 1981, Kachru 1981, Prator 1968, Platt 1977, Bickley 1982, Candlin 1982, Vongvipanond - in Bickley 1982).

The intranational/international distinction first emerged at the Conference on English as an International Auxiliary Language in 1978 designed to probe issues relating to what Smith (1976s) had termed "English as an international auxiliary language". Strevens (1983) summarises the importance of this distinction and the new situation regarding the worldwide role of English which has made such new descriptions necessary:

> "Here we must notice an extraordinary fact. Looking at the global position of English today it appears that the total number of English-users, at around 700 millions, is far greater than the total populations of the so-called English-speaking countries like the United States, Britain, Australia and New Zealand, and Anglophone Canada. Probably non-native users of English out-number the mother tongue speakers by 400 million. So English is used far more widely than simply as the language of the countries mentioned above. This is the crucial change which will

> inexorably impose consequences upon us all" Strevens 1983: 3).

Strevens goes on to define the international use of English in the sense that English is used in "virtually every country on earth as the vehicle for some or all of the following trends or activities" and lists among others: science and technology, the media industries, international diplomacy, administration, tourism, etc. "So English" the author concludes:

> "is used not just within the confines of countries where it is the mother-tongue - as Japanese is used within Japan - but world-wide, for instrumental purposes; for a reason; as a tool; to do a job; for literary activity; to understand and participate in one of these English-using activities" (Strevens, ibid: 5).

Aside from the important fact of the multiple 'Englishes' that arise from such a situation (performance varieties of educated speakers of English from EFL countries as well as fully established and institutionalised varieties of the educated community of speakers in ESL countries) the intra/international distinction provides two important foundations for research - and which are related to the present study: (1) the analysis of the international aspect of the role of English (especially for instrumental purposes), and (2) the recognition that English is frequently used domestically, or intranationally, without the immediate circle of the so-called English-speaking

countries. However, it may be possible to go further than the usual recognition that intranational purposes refers to ESL-type countries only but extend it also to EFL situations in a highly selective sense (such as medical communication in Japan).

2.3.4 English in the Educational Domain

In the volume The Spread of English in which Fishman et al. prefer the term (English as an) "additional language" they refine and confirm claims that:

> "English is the major language of wider communication and the primary, natural language candidate for an international language in the world today" (Fishman et al. 1977: 7).

An extensive study of library and other archival information is presented regarding the spread of English world-wide particularly in non-English mother-tongue countries. They put forward a number of general conclusions:

- That English is widely used for official purposes (i.e. governmental, legal operations) in non-English mother tongue countries.

- That English world-wide is more learned than used and more used than liked.

- That phenomena such as the large number of newspapers and books published in English in these nations (especially Asia and Africa) indicate that English has, more than any other language, become the "conduit to the wider world" (Fishman et al., ibid: 35).

- That English is:

"still growing as a subject of instruction and as a major vehicle of higher education and of publication on a world-wide basis" (Fishman et al., ibid: 35).

(An example of this is the fact that English mother tongue countries continue to host more than 40% of the non-English -speaking world's foreign students).

Some reports, like that of Criper and Dodd (1984) in Tanzania have described indigenous language spread (Kiswahili) and the conflict that arises over the need to maintain English ("maintain a foothold") for the same (instrumental) reasons advanced by Fishman above. However, Criper and Dodds also emphasise the continuance of English medium instruction at professional and educational institutions (including medical training centres such as Muhimbili (Criper and Dodds 1984: 9).

Much of the empirical evidence concerning the spread of English has come from ESP needs analyses (as a by-product of the main pedagogical concern of the analysis) or within a language planning context from the 'language survey' this latter defined by Ferguson as: "a full-scale description of the language situation in a given country" (Ferguson 1966: 309). Surveys of this kind are often used as fact-finding devices to assist in policy making and language implementation at a national level. Such reports (see Kennedy 1982: 272-273) can be found in the survey of language use and language teaching in Eastern Africa series (Prator 1975 and also Language in Uganda - Ladefoged, Glick and

Criper 1972), Rubin, Jernudd et al. 1977, on implementation processes in India, Indonesia and Israel. The massive Language Teaching in Japan (Igarashi et al. 1979) though not an integrated survey of English language use in Japan does throw light on the role of English at the secondary and tertiary level of the education system by means of 46 separate papers by various Japanese and non-Japanese contributors.

Whilst comprehensive surveys for describing the language education situation (including English) in a country proceed from an integrated and organised blueprint unlike fragmented collections of observations, exhortations and pieces of research such as the Japanese volume quoted above, they are, as Kennedy (ibid) points out, not without their problems. There is the difficulty, for instance, of comparing samples from different areas and stages of growth (Lieberson 1980) and the doubt that a national socio-linguistic survey will be able to provide sufficient generalisations about language use in crucial variables (viz. age, sex, demography, etc. - see Whitely 1973). The The solution would seem, therefore, to point in the direction of the construction of some form of data-base sufficiently 'powerful' to provide an appropriate framework or matrix for the linguist or educationalist to be able to identify what the language situation of a given areas is and what relevant factors might assist in the development of language policy.

2.3.5 English in the Occupational and Professional Domain

In popular journalism as well as in the reports of some sociolinguists English is noted as the 'lingua franca' of a wide variety of occupations from that of jazz singer to hotel receptionist. It is acknowledged to be the language medium of many "communicative networks" (Cooper's expression - 1982) including information systems and activities within such fields as: nuclear science, diplomacy, maritime communication, sport, telecommunications, business, and numerous other fields (Barnett 1971, Time Magazine 1982, Hindmarsh 1978). In the field of aviation, for example, it is the official air language of NATO as well as being used by pilots and air-traffic controllers within national boundaries in non-English speaking nations. Mazrui notes that:

> "When a Russian pilot seeks to land at an airfield in Athens or Cairo or New Delhi he talks to the control tower in English" (Mazrui 1975: 67).

Barnett, meanwhile, states that:

> "more than 70% of the world's mail is addressed in English ... over 60% of the world's radio programmes are in English" (Barnett 1972: 8).

(A similar picture is described in Shaw and Jernudd's World Maps of Uses of English and Other Languages of Wider Communication, 1984.

At a more 'micro' level, the sociolinguistic profile has brought out detailed information about the spread of

English in specific societal contexts. Several studies in Israel fall into this category. Rosenbaum et al. (1977) analyse the status of English among the shops and restaurants of a busy Jerusalem street. English was the foreign language which was most in evidence:

> "Its native speakers did not scruple to use it in public, unlike the native speakers of other languages, who tended to use Hebrew in this context" (Rosenbaum et al. 1977: 192).

Allony-Fainberg noted the extensive influence of English on formal terminology in Hebrew in a dictionary of automobile terms (1983) and also in studies of four "work" dictionaries (1977): (1) kitchen terms, (2) joinery terms, (3) technical drawing, and (4) locksmith and blacksmith craft terms. Ronen et al. in study of the use of English loanwords in Hebrew newspapers have pointed out that the different proportion of loanwords between the two newspapers studied can be "directly associated with education and socio-economic status" (Ronen et al. 1977: 234). It was apparent that the newspaper with the more sophisticated audience employed more English words.

Few studies actually investigate the role of English as a lingua franca or medium of training in work/occupations. These studies usually occur within the context of English for Specific Purposes (ESP). ESP, at the syllabus planning stage of a language teaching operation (the 'micro-level') will reflect by means of a needs analysis and specific features of the curriculum some - though not all - aspects

of the penetration of English within that occupational domain.

Massallem (1984) assessed the needs of 150 police officers in Egypt and concluded that English was required because of the presence of a large English-speaking community both resident and in transit (American, British and Canadian tourists alone spent 1,256,908 tourist nights in Egypt in 1981). Areas of English language need were as follows: registering vehicles, issuing driving permits and trading permits, passport control and so on (Massallem 1981: 179-181).

Not confined to one geographical area (an intranational English use situation like the above) but on a global international level we can cite the so-called SEASPEAK project for a description of English language spread according to occupational domain. In 1975, English was adopted by international agreement as the appropriate language for seafaring and in 1977 an official Standard Maritime Navigational Vocabulary was published (described in Strevens 1985 and Weeks 1982). This research, focussing on the use of English in VHF radio communication among seafarers - 85% of whom (i.e. ship officers) were found to be non-native speakers of English - highlighted several points concerning the increasing use of English in maritime communication. Strevens points out, among other results, that:

"among bridge officers, only a small minority

> are now native speakers of English; 15 years ago the opposite was true. Yet English is now the internationally agreed language for communications - there has been a massive decline in the number of specialist radio officers and their involvement in immediate navigational communications: the shipmaster, instead of being inaccessible behind his radio officer is now almost forced to be a radio communicator, in English, at a moment's notice" (Strevens 1985: 2).

Four radio contact situations were identified: emergency (distress), safe navigation, security, and business, (Weeks 1982: 40-44).

The SEASPEAK project began to move into a teaching materials production phase based upon the pedagogical conclusions arising from the study. A SEASPEAK Reference Manual, Maritime Vocabulary, and SEASPEAK Training Manual have been constructed to "train the qualified mariner to exercise his profession through English" (Strevens 1985: 9).

The nature and scope of the research described in the SEASPEAK project represent a significant departure from most of the language surveys outlined here. Strevens certainly holds this view:

> "It constitutes a rare example of planned language development for the specific purposes of a non-ethnocentred use of English" (Strevens, ibid: 9).

But it is 'different' in the other respect which I have

mentioned, i.e. as seen from the point of view of the spread/role of English within an occupational domain inhabited, as it were, by mainly non-native speakers of English.

2.3.6 Other Medical Languages and the Development of English

English has not always played a large role as a medium of international communication in the medical sciences. There have been earlier lingua francas - the traces of which can still be seen in journal titles such as the Japanese publication Archivs für Japanische Medizin (Kyoto) and Uppsala's Acta Paediatrica Scandinavia.

An estimation of the changing role of the French language in medicine is given in Phillipe Meyer's assertion in the British Medical Journal (1975), that 70% of results in the field of molecular and cellular endocrinology are published in English (no source). Among the factors said to be involved in the shrinkage or decline in French is that:

> "most of the best contributions in science and medicine are published in English in international European, American or British reviews" (Meyer 1975: 546).

as well as the situation in which:

> "French scientists and doctors are informed of the important advances in their fields by books and reviews published in English, since English has become the international scientific language" (Meyer, ibid: 456).

Kourilova (1978) has indicated the professional tensions that exist between the political need for doctors in Czechoslovakia to learn Russian and the practical and increasing need for fluency in English. Kaufmann (1979) has also described the "retreat of the German language in medicine" (writing in a German publication Medizinische Klinik which has switched to English as the language of research publication).

The tendency of medical researchers to use English as their reporting language has implications for the consultation of research materials in other languages. According to one survey of borrowing habits by medical personnel at a British faculty of medicine (University of Sheffield) it was found that the use made of foreign language books and articles was lower in the faculty of medicine than in other non-humanities departments. Also, French language medical publications were less frequently used than those in German (Hutchins et al. 1971). Other factors could possibly account for this situation. The stocking of foreign publications could be financially prohibitive (i.e. economic factors) or the doctors sampled might have had a lower foreign language ability than academics from other departments (language proficiency factors). But we can assume, I think, along with the researchers that the very large number of medical resources available in English alone are thought sufficient by most doctors in Britain.

2.3.7 Latin in Medicine

In modern medicine, Latin has retained a strong influence upon the medical school curriculum. It is still taught as a second language in medical education in Russia, France and Japan (in most but not all medical schools) and is an entry requirement in medical faculties in Poland (Tudruj 1983: personal communication) and Czechoslovakia (Kourilova 1983: personal communication).

Latin continues to exercise an influence on the specialised vocabulary of knowledge areas. Dirckx (1979) has pointed out the extensive use of Latin in the coinage of terms in dermatology. The use of Latin as the predominant medium of anatomical nomenclature in Europe and Asia has been described by Roberts (1971). Revising the "strict Latin policy" of the BNA (Basel Nomina Anatomica) post-war meetings of anatomists,

> "medical scientists from all countries agreed that in future editions of textbooks B.N.A. should form the basis, authors being free to translate into words suitable to their readers provided they gave the official Latin names" (Roberts 1971: 47).

Concerning the influence of Latin upon medical lexis Maher (1984) has already pointed out that students from non-Graeco-Roman language backgrounds experience difficulties with technical terminology precisely because of the large number of classical derivations in medical English. This is supported by the research of Butler (1980) in which

the vocabulary of Dorland's Illustrated Medical Dictionary was analysed. Of 49,000 words analysed, 58% derived from Greek alone, 21.7% from Latin alone, 13.2% from Greek and Latin hybrids, and 2.9% from "English" (presumably by "English" is meant words of Anglo-Saxon origin). Moreover, when this 24th edition (1965) was compared with the earlier 20th edition (1944), of the 5,900 words included in the 24th edition but not in the 20th 93.7% are of Greek, Latin or Graeco-Latin derivation. This would suggest that not only is the majority of medical terms derived from Latin and Greek but that, accompanying the alleged spread of English in medical communication, medical terminology in English is relying increasingly upon Latin and Greek as lexical sources.

2.3.8 Chinese in Japanese Medicine

Chinese medicine ('Kanpōyaku') is the major form of medical treatment in Japan but was the dominant medical practice before the introduction of Western medicine. It was itself introduced to Japan via South-East Korea around 550 A.D. (Ōtori 1955) along with Chinese religious concepts, art forms, literary skills and the writing system. The Chinese language, however, is still in evidence in the anatomical charts (showing body meridians and pulses) hanging on the walls of Chinese schools of medicine in Japan, in which proficiency in the Chinese forms of 'kanji' (Sino-Japanese characters) is required. Although Chinese medicine is widespread in

Japan using non-Western techniques of massage and chiropractic ('shiatsu', 'seitai') acupuncture ('hari'), and herbal treatment ('kanpōgusuri'), the role of the Chinese language itself in the medical training process has not been investigated by Japanese linguists.

So influential was the Chinese language as a former medium of communication that the seminal works which introduced European medicine to Japan were compiled in Chinese. But these works were written by Japanese and not Chinese physicians. The irony is further complicated by the fact that many of these works were, in fact, translated or adapted from European language texts. The epochal Kaitai Shinshō (New Book of Anatomy 1774) and the earlier report Kaitai Yakuzu (Short Atlas of Anatomy 1773), Ma notes (1955), were both translations of a Dutch edition of the German anatomy text Anatomische Tabellen by Johann Kulmus (Danzig, 1772). (See also Ogata 1961: 48-70 and Bowers 1965: 15-19).

Whereas the influence of Latin in European medicine had vastly decreased by the late 17th century, in Japan at that time and throughout the Tokugawa period (until 1871) many educational institutions specifically to teach Chinese studies were established. As Doré observes:

> "the Chinese language was the royal road, and the only road, to all knowledge at the beginning of the period. The classics, the most instructive history, the most refined literature, the most authoritative works on medicine, astronomy, mathematics and law were written in Chinese" (Dore 1968: 136).

2.3.9 The Emergence of English

Within Europe, a combination of factors most likely effected the movement towards English for medical communication. Dirckx (ibid) alludes to four main issues: (1) the rise of nationalism, (2) the assertiveness of Romance dialects, (3) the Reformation, and (4) the 'explosion' of medical knowledge.

In the 16th and 17th century, new herbs and drugs were coming back to Europe from voyages of discovery with increasing rapidity demanding new forms and techniques of research.

Petrucelli (1979) notes that the first books in English emerged at this time:

- the first medical book in English: The Breviarie of Health in 1537 by Andrew Boorde
- the first book in English on fever: A Boke or Counseill against the Diseas commonly called the Sweate or Sweatying Sickness by Thomas Phaire in 1545
- the first book in English on paediatrics, The Boke of Children by Thomas Phaire in 1545.

Medical translators in this period began to translate Latin and non-Latin works directly into English such as: Quesyonary of Cyrurgyens (1541), a translation of Guydon by Robert Copeland and the Boock of Physike (1597) a translation of the German work by Gabelhauer.

2.3.10 Concluding Comments

English has been but one in a series of different medical lingua francas which have prevailed in Europe and in Asia - including Japan. There are continuing traces of influence on and linguistic integration (rather than complete linguistic 'death') with present-day medical English. There is the influence of Latin on the lexical selection of new medical terminology, for instance. This influence also has potential implications for the acquisition of medical vocabulary by Japanese and other medical students from non Graeco-Roman educational backgrounds.

2.4 Discussion and Conclusion

2.4.1 There is some uncertainty and ambiguity among some linguists about the connection between the rapid expansion of English as an international language and the role of English language teaching. Some American linguists have been anxious to dissociate ESP in particular from the field of English as an international language. Smith (1983) seems to view his volume Readings in English as an International Language as evidence for this dissociation:

> "It should be clear from this collection of readings that English is not an instance of ESP (English for Specific Purposes) (Smith 1983: iv).

Baxter states:

> "EIL is not an instance of ESP. It is not, for instance, an example of the proposal of a specific linguistic corpus for diplomats or international business persons" (Baxter 1983: 101, see also Bickley 1982: 86).

On the whole, these writers sidestep the question of the implications for English language training of the new, global situation, described by them, whereby English functions as an international medium of communication in specific types of social activity and occupation. Referring to EIL (English as an International Language) Hardin vigorously downplays the language teaching (ESP) implications:

> "The simple fact is that international communication cannot be reduced to the limited range and patterns of communication which are, I think, characteristic of ESP" (Hardin 1979: 2).

A very different stance is adopted by Strevens who, as described earlier (section 2.1) makes an explicit linkage between the:

> "recent massive global expansion of English"

and in the same period

> "a great increase in the demand for instruction in English as a foreign language" (Strevens 1980: 105).

Although Smith and others would not, I think, wish to

deny Strevens' linkage, they would surely not wish to make the claim, as Strevens does, that ESP is a natural reflection of the spread of English. Strevens' argument seems to me convincing. It seems perfectly rational to suppose that part of the demand for instruction in English is stimulated by the desire of many communities to adopt English as a shared international medium of communication - in Widdowson's phrase a "common communicative amenity" (Widdowson 1982: 11).

Strevens views ESP as a reflection of the vehicular function of English. In some countries there is "selective acceptance of English" that is, a wish to adopt English not for the "earliest years of education" or for "discussion of local cultural ideas" but rather:

> "licensing it, so to speak, for use in specific but restricted areas: these areas include not only science and technology and 'econo-technics' (Fishman et al 1977) but also the various strains of international activity for which English serves as a vehicle: the mass media of information and entertainment including films, radio and TV; international aid and administration; pop music; marketing and advertisement by multinational corporations; literature written in English by non-native speakers of English, etc." (Strevens 1980: 106).

In this review, I suggest, the role of English as an international language of medicine is clearly reflected in the establishment of the field of English for Medicine

(EMP). EMP textbooks for doctors, medical students, and health care personnel, EMP courses in Britain, U.S.A. and overseas, the testing of language proficiency in English for doctors, and the emergence of a body of theoretical literature reflect the growing importance of English as a medium of communication within the field of medicine.

2.4.2 The clear point to emerge from the pedagogical survey of EMP is the lack of descriptive accounts of the role of English as well as of language teaching itself in overseas medical education. Teaching materials have indeed emerged from schools of medicine in Warsaw, Kuwait, Saigon, Moscow, Nancy, and Prague but no descriptions of the language needs of medical students and doctors and programme curricula have emerged. Only brief outlines exist in the majority of cases (Lewcowicz and Pett 1980, Adams-Smith 1980, Olsen and Albert 1985). The result is an incomplete picture of EMP in operation overseas - in medical education especially.

Whilst doctor-patient communication skills are a crucial area of EMP operations in English-speaking countries especially where professional qualifications and employment of foreign doctors are concerned, the emphasis overseas seems to be on reading and writing. Medical vocabulary teaching seems to be prominent both in materials and in EMP courses.

There is the active role played by medical personnel in EMP. This role occurs in textbook construction as well

as in actual EMP programme design: level of participation surely unique to this branch of ESP. It is unlikely that bankers, petroleum engineers, business people, and air-traffic controllers have been involved to the extent that the health profession has in medical English programmes.

Once again, this deficiency in sociolinguistic knowledge reflects the overall lack of applied linguistic research in medicine in non-English-speaking environments - Japan for instance. In the field of teaching English for medicine the problem is twofold: EFL situations are under-researched and EMP materials are weighted heavily in favour of already qualified medical personnel. As Seymour correctly points out about EMP materials:

> "Most of the published materials seem to be aimed at medical practitioners or the U.S.A. Very little work has been done on the needs of medical students outside the countries where English is the first language (Seymour 1981: 80).

As regards the contribution of the theoretical branch of EMP, recent thinking seems to have moved away from the notion of 'medical English' in the sense of a distinct register of English defined by formal linguistic properties towards the notion of a "single code consisting of features common to all varieties" (Criper 1976: 86) and on studying those variables in linguistic behaviour which are recognisably appropriate to specific situations - such as medicine.

The merit of the new focus of EMP is, I maintain, its emphasis upon the functional use of English - how English is used - in medical situations rather than the analysis of bits of language which are designated 'medical' and which are then taught. The new focus will be of particular value to learners from non-Western cultural backgrounds (e.g. Japanese medical learners) since it draws upon those concepts and conceptual relationships - realised in grammatical and rhetorical expression - which characterise scientific thought and which may not be immediately recognisable by such learners.

2.4.3 Trudgill (1984) has noted that a central problem of reports dealing with the use of 'Englishes' around the world is that they are:

> "mostly too brief and, crucially, too barren of data to be at all persuasive" (Trudgill 1984: 8).

This is particularly evident in reports on English use as a medium of international communication in various fields of work activity. Language planning or English language teaching in primary and secondary education (often dealing with the third world or developing countries) is an area which seems to have received much attention.

Kennedy, in a similar, critical vein, points to

> "a strong case for more limited, small-scale surveys done on a local basis" (Kennedy, ibid: 273).

Likewise Spencer (1980, quoted in Kennedy) referring to language planning feels the need to reject global,

national solutions in favour of a 'situation-bound' approach based on the use of language and language-varieties in specific social situations. These two remarks seem to point clearly away from a nation-based survey of English language use which tends to spread sociolinguistic analysis too wide and overextends itself. A new approach must emerge as an alternative, based upon roles and social functions involving the use of English within a restricted societal domain. This approach seems to be suggested in the concluding proposals of the Conference of English as an International Auxiliary Language (mentioned above) which called for:

> "descriptive and empirical studies of English in different settings - fact finding at international, national, regional and local levels in relation to role, functions, attitudes, expectations, etc. as well as studies of the implications of the international/intranational in relation to language learning and teaching" (Kachru and Quirk 1978: xviii).

It is in this descriptive sense involving one setting (medicine in Japan) and in relation to the roles of doctors and medical students that an '<u>occupation-based</u>' <u>analysis</u> of the spread of English is pursued here. From what the various sociolinguistic profiles and large-scale surveys show of the international as well as the intranational uses of English there is lacking descriptive study of the role of English within: (a) a specific work/ occupational domain, (b) a professional training context,

and (c) an EFL situation in which the surrounding environment is largely monolingual. Combining all three factors, the present study attempts to provide an adjunct to the existing body of literature on the spread of English and to fill the need for a profile on the spread of English in the field of medicine.

2.4.4 Observation of former languages of medicine during historical periods reminds us of a familiar sociolinguistic phenomenon - that a language is maintained or declines in response to the amount of new information and knowledge structures which it carries or is able to carry. In Japan, at the same time as the steady encroachment of Dutch and German medical expertise during the Tokugawa period, Chinese was increasingly unable to develop its technical knowledge base and was simply 'standing still' (see Nishi 1960, Nishimura and Amemiya 1962). For instance, anatomical research was prohibited in Japan because Chinese medicine (based upon Confucian teachings) taught that the body was sacred and was not to be mutilated. Bowers (1965) describes the scene of young Japanese students of Western medicine in Nagasaki during the Tokugawa Shogunate huddling in secret around an 'eta' (an outcast, untouchable) dissecting the beheaded corpse of a female criminal Aocha Baba (Green Tea Hag) (Bowers 1965: 2).

That a massive body of knowledge (akin to the 17th century explosion of medical discovery) now emanates from

English-speaking countries, in particular the United States, is constantly being stressed by biomedical communicators and medical information scientists (de Solla Price 1978, Garfield 1980, Warren 1981, Bloomfield 1976). But this requires empirical evidence - relative to the medical publication output of other non- English-speaking nations.

Finally, as one language spreads within the medical domain other languages are displaced (viz. Kaufmann's (ibid) "retreat of the German language" and Meyer's (ibid) "problem for the non-Anglo Saxon community", i.e. French medical scientists). But there is the additional suggestion in Hutchins et al. (ibid) that medical literature in other languages might come to be disregarded simply because it is not in English. We may be witnessing, therefore, in medical German and medical French, declining languages of research publication/consultation. The suggestion is further pursued in the present study by observing the role of German language use (publication and research citation) in Japanese medical reports.

CHAPTER THREE

METHODOLOGY AND LOCATION OF THE INVESTIGATION

CHAPTER THREE

Methodology and Location of the Investigation

3.1 Hypotheses

In the light of current research and major issues outlined in chapter two, the following hypothese are presented.

(1) The Language Spread Hypothesis: that English is now a fundamental part of the communication system of Japanese doctors.

(2) The Medium of Instruction Hypothesis: that English functions alongside Japanese as a medium of instruction in medical education in Japan.

(3) The Language Training Hypothesis: that the widening role of English in medicine is not reflected in the English teaching system (e.g. EMP syllabus design, materials and methodology).

3.2 Sub-hypotheses

Data was also collected in order to test further sub-hypotheses all of which relate to the main hypotheses above.

(1) The Role of German: that German also plays an

important role in medical communication in Japan as well as being a medium of instruction in medical training.

(2) Differences between Medical Disciplines: the null hypothesis states that there are no differences in attitude towards English or the extent of use of English between doctors working in basic medicine and clinical medicine.

(3) Private versus Public Sector Medicine: the hypothesis is put forward that there is a significant difference between the communicative behaviour in English (e.g. reading) of public and private education doctors. This is based upon the popular belief among the Japanese public that doctors working in national (public) medical schools are better qualified and simply 'cleverer' than their counterparts in private medical schools.

(4) Age and Year Differences: the hypothesis is put forward that the age of doctors affects their attitudes towards the importance of English in their work. Also, that among medical students attitudes vary according to what stage of medical education they have reached (e.g. 2nd, 4th, or final year).

3.3 Location of the Investigation

The investigation was carried out in the Kansai and Kyūshu regions of Japan (respectively the main island of Honshu and the southern island of Kyūshu). The regions were selected for reasons of familiarity and convenience. Four teaching institutions provided data for the investigation:

Shimane Ikadaigaku, Izumo-city (Medical university)

Hiroshima Daigaku Igakubu, Hiroshima-city (Faculty of medicine)

Kyōto Furitsu Ikadaigaku, Kyōto-city (Prefectural school of medicine)

Kurume Daigaku Igakubu, Kurume-city (Faculty of medicine)

Additionally, a small number of doctors from Tōkyo (central Honshu) and from Wakayama (island of Shikoku) were included in the study.

Data relating to the role of English, Japanese and other languages in medical publication world-wide was collected from the Index Medicus (Medline) database located in Basle, Switzerland. The computer facilities in Erskine Medical Library, University of Edinburgh were used to retrieve these data.

3.4 Methods of Investigation

3.4.1 Computer database

In order to estimate the comparative roles of English,

Japanese and other foreign languages in publications world-wide, use was made of Index Medicus, the international index of articles published in medical periodicals. Roughly one million abstracts of articles were scanned by computer to obtain the results.

The system employed was MEDLARS (Medical Literature Analysis and Retrieval System) a computerised system for assembling and publishing Index Medicus. Citations to biomedical journal articles along with their descriptors - including language publication - are recorded on magnetic tape and are retrievable by specific search procedures involving: language, date of publication and country of publication.

3.4.2 Observation

English language teaching was observed whilst attending formal English classes for 1st and 2nd year students in the Department of General Education ('Ippan Kyoiku') of Shimane Medical University. Lectures in Basic Anatomy ('Kaibō') and Paediatrics ('Shōnika') conducted by members of the teaching staff were also attended together with attendance at a routine clinical conference held in the Department of Paediatrics on three occasions.

3.4.3 Archives

345 journals in the library of Hiroshima University and in the pre-1945 archives collection of Kyoto Prefectural University of Medicine were investigated. The serials indexes at Shimane Medical University library were

also consulted.

3.4.4 Questionnaires

Two questionnaires were employed (Appendices 3.1/3.2 with English translation) to collect data among medical students (296) and doctors (120). The purpose of these questionnaires was to provide information on the role of English in medical training in Japan and to examine the role of English in the professional life of the Japanese doctor.

Japanese and English language versions of the questionnaires were initially prepared in Edinburgh. First drafts of the questionnaires were made in English in order to establish what information was to be gained from them and to facilitate initial discussion. The questionnaires were then written in Japanese. They were checked for grammatical accuracy, coherence and style by native speaker informants at the University of Edinburgh. Trial versions were completed by 4 Japanese informants in Edinburgh. Final pilot versions were sent to Japan and administered at the University of Hiroshima to 15 students and 10 doctors.

The questionnaires were designed to supplement the other methods of investigation used in the study. Questions were asked about the extent of English language use in reading and writing by doctors and medical students. The results complement archive-based data which seek to indicate languages of valued research and data from the

investigation of world-wide publication trends in English (Index Medicus data). Both questionnaires addressed the issue of the current status of German in Japanese medicine and in medical education. Questions also dealt with German versus English language writing in house journals in Japan. Doctors' attendance at medical meetings in English is analysed from three standpoints: whether doctors attend or not, willingness or reluctance to give presentations in English.

Concerning medical education, questions were asked to discover the amount of English required by Japanese students for comprehension of medical lectures. These questions complement the results of lecture observation in a Japanese medical school. The relevance of medical textbooks and resources in English, Japanese and German is also a questionnaire topic which supports the quantitative comparison of student textbooks made in Shimane Medical University.

Both questionnaires address the issue of the value and efficiency of the English teaching programme in Shimane Medical University and elsewhere. Doctors' opinions are sought about their language needs and the effectiveness of language teaching (as they perceive it) in medical education. Likewise, students' opinions are sought about the usefulness of English classes and possible ways of improving English language classes. These questionnaire themes were designed to supplement on-site reporting on how English teaching is conducted and the prevailing

ethos behind English language education in medical schools in Japan.

Some semantic problems arose concerning the precision of the response scale in Question 1b (both questionnaires): 'metta ni' (very rarely) to 'yoku' (very often). The expression 'toki doki' was agreed upon as being the most accurate description of the English 'sometimes' but implying a 'grudging' yes or with slightly more reluctance than is expressed in the English equivalent.

The questionnaires involved three conventional question types dealing with: behaviour, opinions, and characteristics. Very roughly, the first part of the questionnaire dealt with facts about behaviour patterns, such as (Q.1 - students) whether students ever read medical articles and reports in English. The second part dealt with attitudes or opinions. For instance, the connection was sought between a doctor's knowledge of English and its possible influence upon career advancement (viz. Q.9 - doctors). The third part dealt with factual details about the person's age, occupation, year of study, etc.

Final versions of the questionnaires in Japanese were prepared and distributed personally to doctors at the various institutions and in the case of medical students in Kyoto, Kurume and Hiroshima by proxies.

The construction and methodology of the questionnaires was done with close reference to the Questionnaire Design Manual (Social and Community Planning Research 1982).

In questions dealing with behaviour and opinions, some responses were rated according to an adaptation of Kaplan's (1980) 'semantic differentiation scale' - using temporal or adjectival descriptions to isolate behaviour or attitude. Questions were either coded 1-2 or 1-4 to facilitate later analysis or were free response.

The data were analysed using the Statistical Package for the Social Sciences (S.P.S.S.) (Nie, Hull et al. 1970). Crosstabulation, frequency analysis and statistical tests of significance were made.

CHAPTER FOUR

THE ROLE OF ENGLISH IN MEDICINE IN JAPAN

CHAPTER FOUR

The Role of English in Medicine in Japan

4.1 Japan in the International Context of Medical Literature

4.1.1 Introduction

What follows is an estimation of the changes or trends in language preference in medical writing world-wide. This is achieved by means of an analysis of computerised data involving approximately 1,000,000 articles from medical journals throughout the world classified according to language (mother tongue and/or English) and country of publication. The purpose is to provide an evaluation of the relative penetration or prominence of English in the international field of medical writing. Particular attention is paid to the relative distributions of English compared to Japanese and its role within Japan itself, i.e. intranationally.

4.1.2 MEDLARS (Index Medicus): Analysis and Results

Table 4.1 outlines the results from the MEDLINE database showing the language of journal articles over a 15-year period starting in 1966 with the final figures for 1980. From the figures shown, it appears that the number of articles published in English has increased steadily (19% of the total volume of articles) over this period. In the year 1980 the total (189,616) included 20% published in countries other than the U.S.A. and the U.K.

8.3% were published in three countries: Japan, Germany and France. This increase in the volume of English language articles has not been matched by a similar increase in the number of German language articles which has fallen 5 percentage points over the same period. In the case of Japanese, it appears that this language has extended over a larger number of articles over the last 15 years but that the increase is not very marked (505 more in 1980 than in 1966) in terms of gross output - in fact a drop of 1.1% of the total.

Unlike French, other languages - German and Italian, Japanese and Spanish do not seem to have declined in use as markedly but rather gradually after reaching their peak in 1970.

Table 4.2 presents the arrangement of journal output by country and according to whether the language employed is the mother tongue (vernacular) or English. Unlike the previous table, the principal concern here is not to see the number of articles written in a particular language but rather to investigate the publications of particular national groupings with regard to either mother tongue (Japanese, French, etc.) and/or English (i.e. English-speaking groupings).

It appears, first of all, that an increasing number of articles have been written in English recently. The majority of biomedical articles written in Japan are still Japanese, the mother tongue being preferred in about 68%

TABLE 4.1: Language of Journal Articles for Years 1966, 1970, 1975, 1980

LANGUAGE	YEAR OF PUBLICATION			
	1966	1970	1975	1980
All	174,002	211,745	240,167	262,626
ENGLISH	92,725	124,713	160,584	189,616
(% of all)	53.3	58.9	66.9	72.2
JAPANESE	6,783	8,364	7,003	7,308
(% of all)	3.9	4.0	2.9	2.8
FRENCH	13,449	15,762	11,419	10,697
(% of all)	7.7	7.4	4.8	4.1
GERMAN	18,996	20,607	19,091	15,263
(% of all)	10.9	9.7	7.9	5.8
RUSSIAN	14,755	15,126	18,288	16,153
(% of all)	8.5	7.1	7.6	6.2
ITALIAN	9,121	6,617	4,188	4,944
(% of all)	5.2	3.1	1.9	1.9
SPANISH	3,400	3,763	2,837	3,241
(% of all)	2.0	1.8	1.2	1.2
Total for all 7 languages (% of languages listed in Index Medicus)	91.5	92.0	93.0	94.2

of cases in 1980. But there are more English articles in Japan than in France - the increase remaining the same: 10% and 9% respectively. In the overall total, however, the vernacular predominates - as might be expected.

TABLE 4.2: Country of Publication of Journal Articles for Years 1966, 1970, 1975, 1980

COUNTRY OF PUBLICATION	YEAR OF PUBLICATION 1966	1970	1975	1980
All	114,002	211,740	340,167	262,626
Art. in English	92,725	124,713	160,584	189,616
%	53.3	58.9	66.9	72.2
U.S.A. (All)	58,882	66,645	84,362	100,370
mother tongue %	99.5	99.5	99.8	99.8
English %	99.5	99.5	99.8	99.8
U.K. (All)	16,500	26,848	31,054	35,064
mother tongue %	99.3	99.1	99.7	99.8
English %	99.3	99.1	99.7	99.8
JAPAN (All)	8,865	10,459	9,743	10,935
mother tongue %	76.0	77.7	71.9	66.8
English %	23.3	21.7	27.9	33.1
GERMANY (All)	17,156	31,452	24,709	24,349
mother tongue %	90.9	81.0	67.2	54.3
English %	8.2	17.8	32.2	45.2
FRANCE (All)	10,324	12,716	9,570	9,402
mother tongue %	97.3	96.3	90.4	88.1
English %	2.0	3.1	9.2	11.7

TABLE 4.3: Article Publication in other Countries with English as a Mother Tongue

COUNTRY OF PUBLICATION		YEAR OF PUBLICATION 1966	1970	1975	1980
AUSTRALIA	(All)	1,149	1,674	1,940	2,329
Art. in English		1,149	1,674	1,940	2,329
	%	100	100	100	100
CANADA	(All)	2,643	2,796	3,030	3,024
Art. in English		2,088	2,281	2,689	2,669
	%	79.0	81.6	88.7	88.3
SOUTH AFRICA	(All)	468	650	1,025	899
Art. in English		409	589	942	792
	%	87.4	90.0	91.9	88.1
INDIA	(All)	1,719	1,865	1,742	2,126
Art. in English		1,719	1,865	1,742	2,118
	%	100	100	100	99.6
NEW ZEALAND	(All)	268	358	543	470
Art. in English		268	358	543	470
	%	100	100	100	100
PAKISTAN	(All)	11	21	158	78
Art. in English		11	21	158	78
	%	100	100	100	100
SINGAPORE	(All)	53	85	79	205
Art. in English		53	85	79	205
	%	100	100	100	100

Whilst the United States accounts for a substantial 38.2% of all articles written in English internationally what is also significant is the geographical spread of publication in English. This is shown in Table 4.3 where publication in English in countries where English is the vernacular is described. Whilst the U.S.A. and the U.K. are clearly leaders in the volume of medical publications world-wide it is also the case that in anglophone ex-colonies such as India, Singapore and Pakistan as well as Commonwealth countries such as Australia and Canada there is also a steady production of English language writing in medical journals. But if we compare, let us say, the number of articles in English in Japanese journals with that of English-speaking Canada, Australia and New Zealand, we find that Japan produced more articles in English than either of these English-speaking countries in 1980.

In order to find out more precisely the extent of English language preference (not just the increase) in overseas journals, I have sampled 37 continuous months of MEDLINE data from January 1979 - February 1983 (Table 4.4). The figures indicate that, in the case of Japanese, a substantial part of biomedical literature is presented in Japanese (67.8%) whilst English is the preferred second language with 32.1% of the total. Data was unavailable for the remaining 0.1%. This compares, interestingly, with the much lower percentage for France (11.4%) and the much higher English language proportion for East and West Germany (44.7%).

TABLE 4.4: Articles Published in Japan, Germany and France over 37 month period (Jan. 1979 - Feb. 1983) arranged according to Publication Language

JAPAN

Total number of articles in Japan		47,972	
Japanese language	%	67.8	(32,545)
English language	%	32.2	(15,398)
Total number of articles published anywhere in Japanese		32,889	

GERMANY

Total number of articles in Germany (E.& W.)		101, 962	
German language	%	57.7	(55,819)
English language	%	44.7	(45,614)
Total number of articles published anywhere in German		65,118	

FRANCE

Total number of articles in France		39, 313	
French language	%	88.5	(34,784)
English language	%	11.4	(4,470)
Total number of articles published anywhere in French		45,038	

4.1.3 Discussion

We can draw a number of conclusions about these data in addition to the central observation that both an increasing number and increasing percentage of journal articles published in Japan (Germany and France likewise) are in English.

1. English has considerable internal or intranational use in Japan (and other non English mother-tongue countries) in the sense that domestic, intranationally-distributed medical journals do publish in English.

2. There has, indeed, been an increase in Japanese language medical writing unlike a decreasing use of the vernacular in Germany and France. This phenomenon bears out, apparently, what one commentator has termed the 'retreat of the German language in medicine' (Kaufmann 1979). A parallel phenomenon can be seen in the change of language policy among journals in Japan (e.g. Acta Medica Okayama's change from a 'multilingual' publication policy to English only).

3. It is worthwhile pointing out the contrary tendency to re-issue certain English medium journals in other languages! The Japanese language edition of J.A.M.A. (Journal of the American Medical Association) now reaches 50,000 Japanese physicians a month. In 1982, Chinese and German editions of J.A.M.A. started whilst other journals such as the American Journal of Diseases of Children and Archives of Otolaryngology join the French language publication policy of J.A.M.A. in France.

4.2 The Growth of English and Decline of German in Medical Writing

4.2.1 Introduction

The postwar era has seen the powerful influence exerted by Western, especially North American, scientific research. But in Japan's 1800s, under the growing influence of German medicine, biomedical writing came more and more to depend upon the German language first through translation then by lexical borrowing of special terms and later in the adoption of German for the writing of research reports. The establishment in 1886 of an elective programme of postgraduate study and research at Japanese medical schools leading to the degree 'Igaku Hakase' (Doctor of Science) required researchers to present a 'Habilitationschrift' usually in German.

Three journals of medical schools visited during field work - and which possess the longest 'publication life' of all those journals observed - were inspected over a period of sixty or seventy years. Original contributions and reports were analysed at 10-year intervals showing the language of article and abstract.

4.2.2 Analysis and Results

The Kyoto Furitsu Ikadaigaku Zasshi (Journal of Kyoto Prefectural University of Medicine) was established in 1927 and is shown in Figures 4.1 and 4.2 over a 60-year period. The early years of this journal, then known as

Mitteilungen aus der Medizinischen Akademie zu Kioto reflect the strong impact of German in medical writing. In the first volume, for instance, out of a total of 86 articles 41 authors presented abstracts in German and there were 5 papers written entirely in German. There were 5 abstracts and 3 papers in English. But the influence of German appeared to consolidate during the 1930s possibly as a result of increased academic exchange between Germany and Japan. Japanese writers were probably becoming more proficient in writing in German. In addition, political pressure, owing to the military alliance and war, exerted a powerful effect - favouring German - on medical writing. By 1937, therefore, whilst the amount of English language abstracts and papers remained more or less constant what is significant is the rise of the vernacular in abstracts (by 28%) and the peaking of German language in articles (a rise of 17% - see Figure 4.2).

The switch from abstracts in Japanese (100% in 1947) to English (almost 100% ten years later) is dramatic. It most likely reflects, as I hinted earlier, the orientation of the whole of the Japanese socio-cultural system towards English-speaking cultures in the postwar period. In particular, there is an apparent desire on the part of Japanese authors to make their research internationally accessible by the usual means, i.e. abstracting, but which does not also require much linguistic proficiency.

The number of abstracts in German rapidly declines in this period to 6.1% in 1967. Articles cease to be written

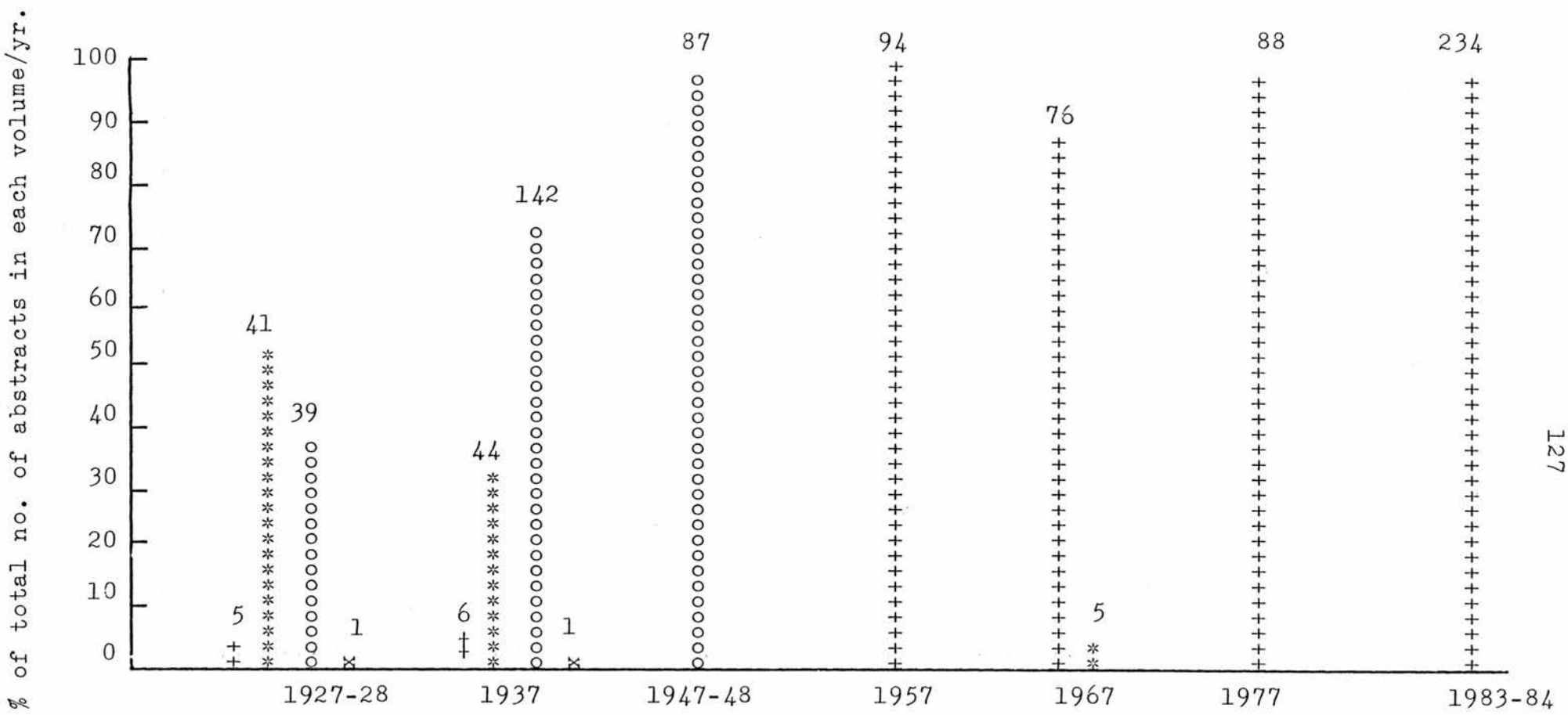


FIGURE 4.1: Comparative development of English language use in Kyoto Ikadaigaku Zasshi (Journal of Kyoto Prefectural University of Medicine) by language of abstract from 1927 to 1983

++ English ** German oo Japanese xx French

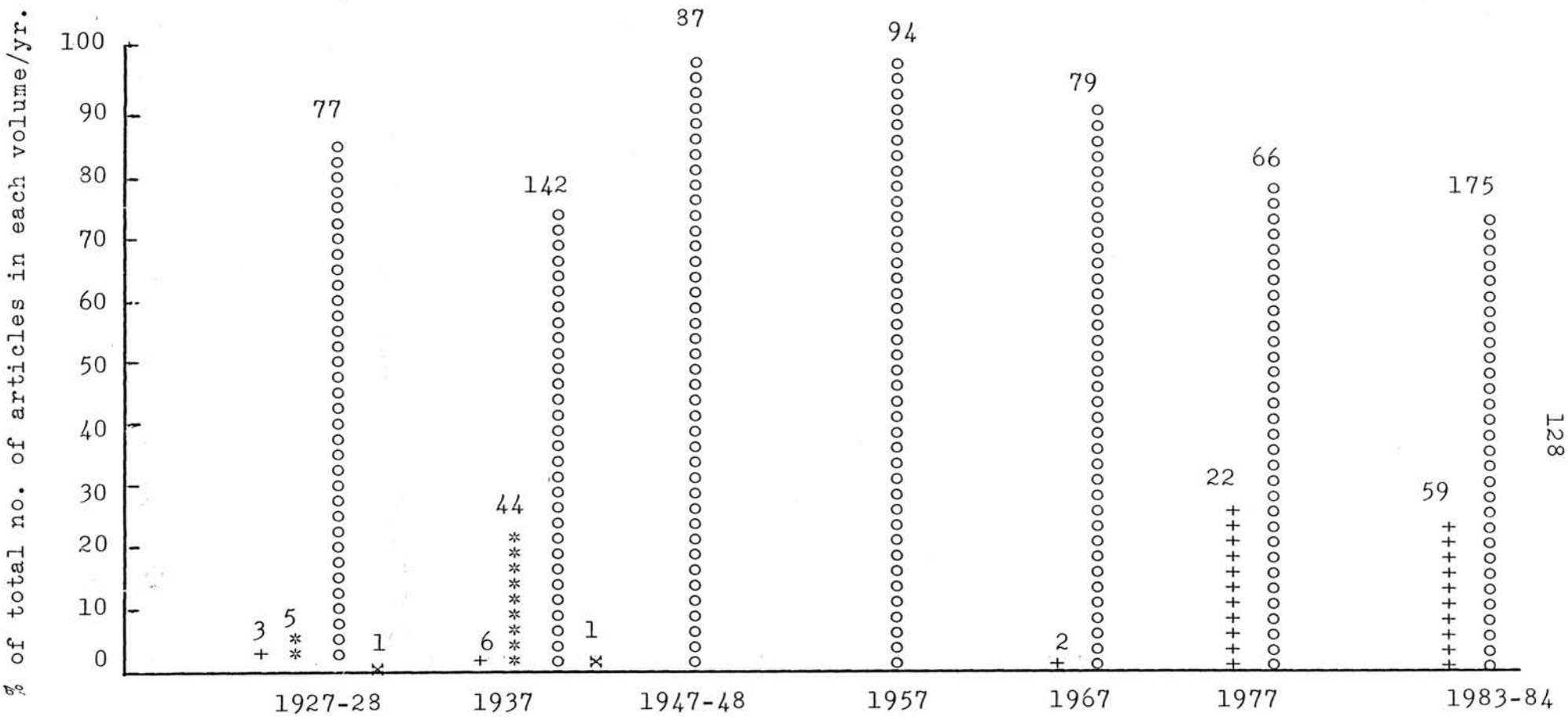


FIGURE 4.2: Comparative development of English language use in Kyoto Ikadaigaku Zasshi (Journal of Kyoto Prefectural University of Medicine) by language of contribution (articles only - excl. abstract) from 1927 to 1983.

++ English ** German oo Japanese xx French

in German by Japanese doctors in 1937. Figure 4.1 indicates the small number written at any point in this magazine's publication history (the contribution in the 1983/84 volume being written by a German doctor).

At the next 10-year point in 1977 there are signs of an increasing tendency to employ English as a means of academic expression. All abstracts and 25% of article contributions appear in English. Approximately the same percentage ratios hold for the recent volumes 1982/83.

The increase in English language use in biomedical writing is even more apparent in a journal which has maintained a strongly Japanese orientation (especially during the war period 1935-45) Archivs für Japanische Chirugie (Figure 4.3). This organ of the prestigious Imperial University of Kyoto is interesting since references to surgical research in Japan tend more frequently than other medical fields towards the German language (see section 4.3.2). But writing in German does not occur. English language articles begin to appear in the 1955 volume. There is a significant upsurge in the proportion of English language contributions: 28% (1955), 44.4% (1965), 52.5% (1983).

It is instructive to compare these data with a somewhat unique journal whose purpose as stated from 1916 onwards is: "the introduction of medical works done in Kyoto for abroad" (inside cover). Acta Scholae Medicinalis Imperialis Universitas in Kioto had the express aim - until it ceased publication in 1967 - to present the best of

Japanese medical research to the world (Kyoto University being one of Japan's most pretigious centres of medical science). Journal policy stipulated that contributions by Japanese researchers "in any European language" were acceptable. Since Japanese was not a journal language this provides a useful means of plotting language preference among European languages only (Figure 4.4 and Table 4.5).

4.2.3 Discussion and Conclusion

From observation of the developmental stages of English and the 'penetration' of English in Japanese medical publications, together with the comments of informants in medical institutions this phenomenon seems to be directly related to at least four factors:

(1) the quality of research,

(2) language profiency,

(3) symbolic significance,

(4) political situation.

Quality of research and the standard of general medical knowledge and expertise at certain periods of medicine in Japan seem to be factors in language selections patterns. For instance, Acta Scholae Medicinalis Imperialis Universitas in Kioto, as we have seen, was instituted to present the best of Japanese medical research from the nation's most advanced research centre and it was considered correct, therefore, that this research 'deserved' to be in an international medium of communication - initially German and later English.

A former editor of Kyoto Furitsu Ikadaigaku Zasshi was interviewed in this study. He was asked why, in the light of his earlier remarks on the widespread proficiency in German among doctors in previous years, was there much less writing in German nowadays? The reply was as follows:

> "The main reason is because the standard of medicine in Japan was not good and is much better now. Not much joint research had been done for a long time so they naturally thought the standard was far below that of other countries. For example, papers couldn't be read abroad. They weren't good enough so they were written in Japanese"
> Shogo Kawasaki M.D.

The language proficiency issue is a second factor. Although it is not part of official policy, English is virtually a compulsory subject in Japanese junior high (3 years) and senior high schools (3 years). Every medical school entrant has passed a rigorous English examination to qualify for entry (see Maher 1984). English instruction continues for a further two years at least. This compares with an earlier situation described by my informant (Kawasaki quoted above - a 55 year old professor of biochemistry):

> "The point is that during the war hardly anybody really knew English. The 3rd year junior high boys like me all went to the factories to make bomb casings...
> You won't find many doctors between 45 and 60 who speak English well" (Kawasaki, ibid).

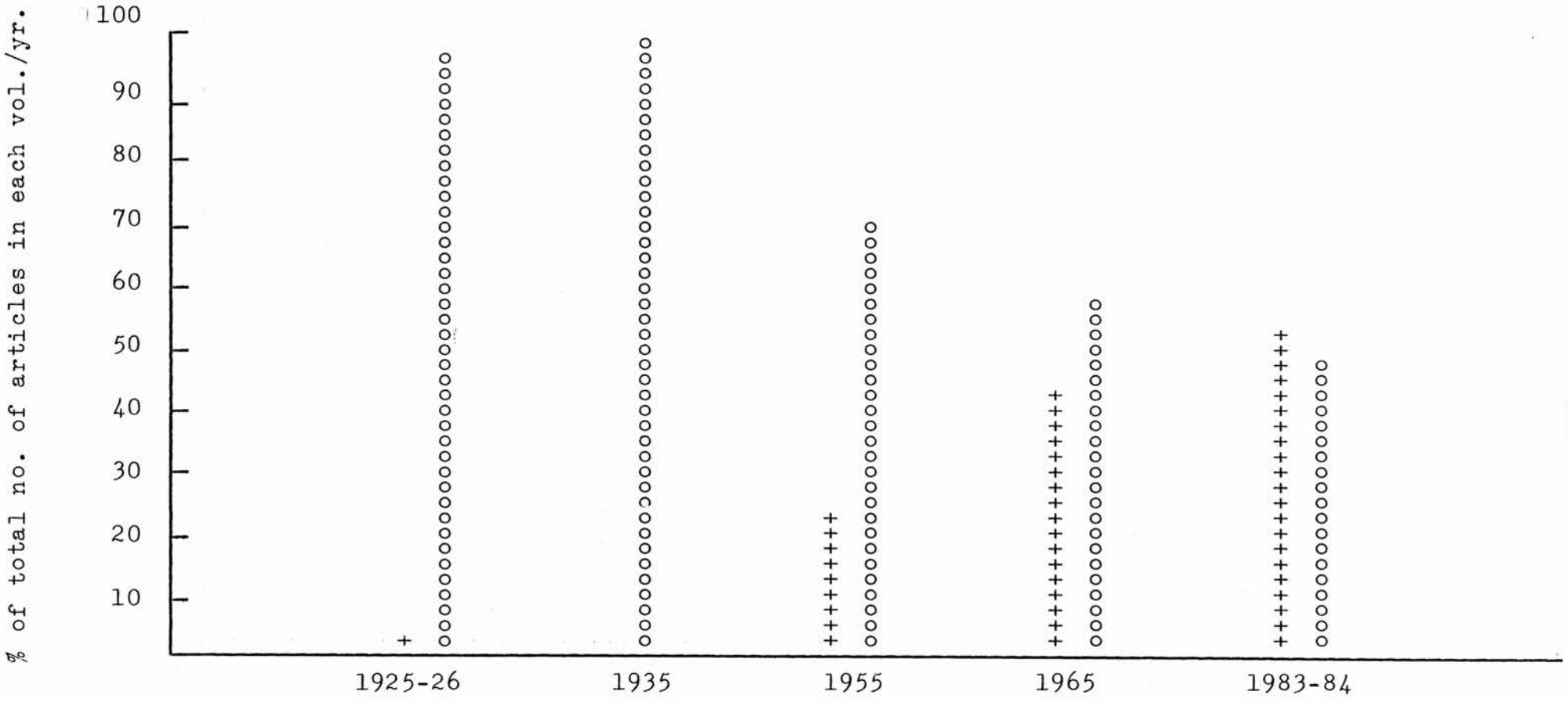


FIG. 4.3: The development of English language use compared to Japanese in Archivs für Japanische Chirurgie

++ English oo Japanese

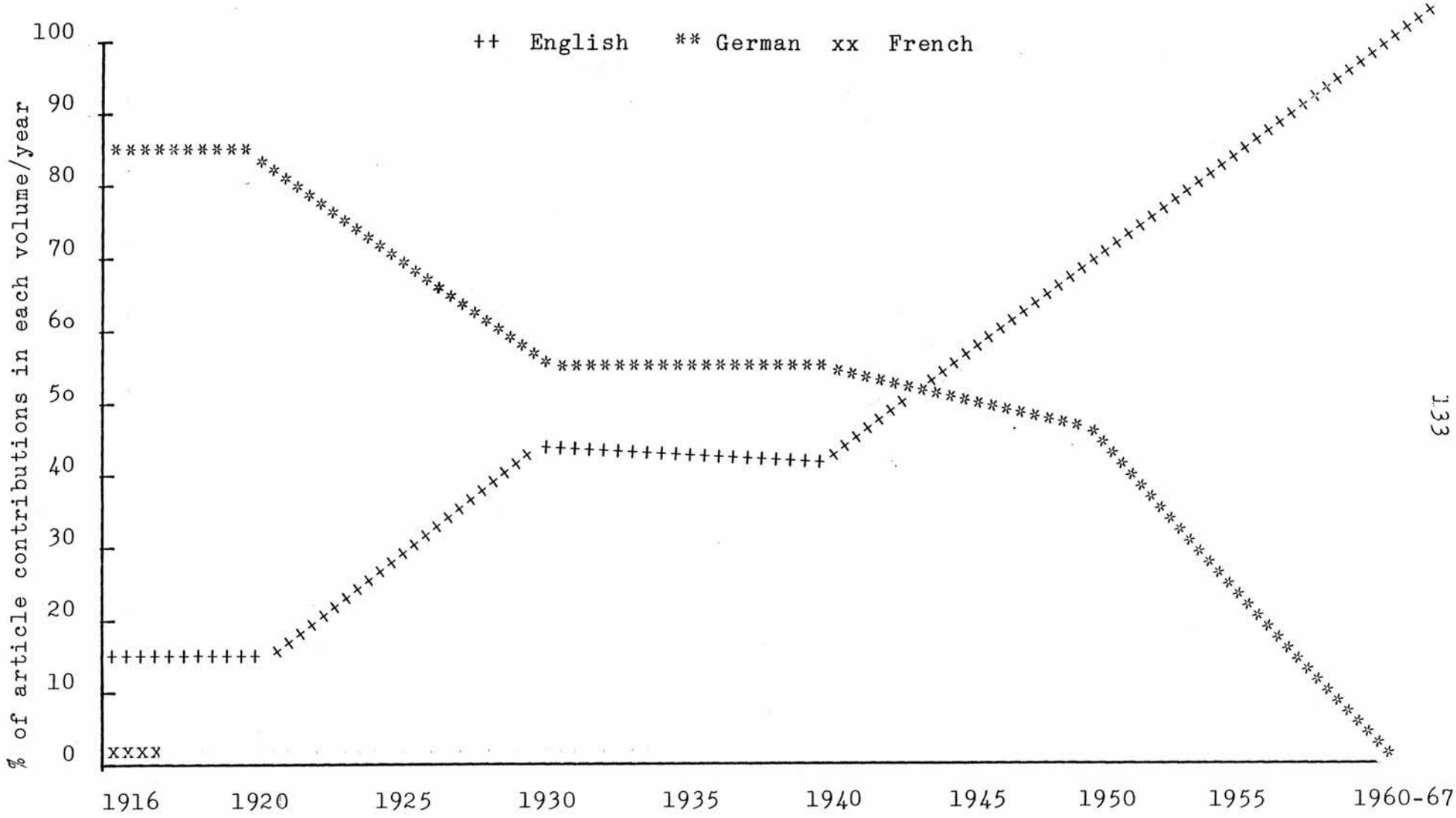


FIGURE 4.4: Development of English and (other) foreign language use in Acta Scholae Medicinalis Imperialis Universitas in Kioto by article contributions from 1916 to 1967

The role of symbolic factors. The adoption of English as a new language for academic communication has been a powerful symbol for the future advance of Japanese science in the international community. It is quite simply seen as a sign of quality of content. For this reason, language planning policy in the newer medical schools (e.g. Shimane, Shiga, Miyazaki, Sapporo) has meant that English-only contributions are acceptable for the house publication.

We can also mention at this point that English use in medicine carries for some individual doctors an emotionally-charged symbolic significance. Consider the following comment by a second informant, a general surgeon a a clinic in Hiroshima on the policy of the Hiroshima Journal of the Medical Sciences to adopt English language publication in 1951:

> "In fact, English is not easier than German for us doctors. It's not. I learned my medicine through German. In any case, if Russia had invaded we'd all be learning Russian now . But America won and the Japanese are glad of that... so English is a kind of symbol of freedom. The language of America and Britain. And we can communicate with each other in peace" (Tomin Harada, M.D.).

Political factors. The defeat of Germany and Japan in the Second World War, the subsequent American occupation and the reorientation of the Japanese economic, cultural and educational structures towards English-speaking America is clearly signalled by the changes in

language policy or preference in the journals observed here. This is well illustrated by the Kyoto Furitsu Ikadaigaku Zasshi. The first two volumes of this journal, 1947-48, appeared after several years of non-publication. These volumes were in Japanese. The situation continued until 1950/51 when English made its first appearance in the subtitles of articles and on the Journal's cover title. Abstracts in English appeared for the first time in 1957.

The political situation from which English emerged as a medium of scientific communication must not be overlooked. Japanese linguists are often at pains to point out the influence of militaristic nationalism in the 1930s and 1940s as the government tried to purge the Japanese language of all foreign influences (Ueno 1968, Miller 1967, Arakawa 1977).

In medical education, at the schools from which research publication emanated, the situation was similarly 'focus-off' the enemy language in favour of German. As my informant - the former editor of Kyoto...etc. - observed:

> "it was all pro-Germany at that time. I remember learning German songs as a medical student and lecturers used German terminology all over the place" (Kawasaki, ibid).

The current political situation reflects the powerful influence of English-speaking America. Just as the American military occupation of Japan over several years provided the nation with a linguistic as well as economic role model, so a similar situation persists today in the politico-cultural relationship of Japan and America. The powerful scientific role model of America fosters the spread of English as a medium of medical communication in Japan.

TABLE 4.5 Language of Contributions (English and German) to Acta Scholae Medicinalis Imperialis Universitas from 1916 to 1967

ARTICLES WRITTEN IN ENGLISH		ARTICLES WRITTEN IN GERMAN	
YEAR		YEAR	
1916 - 1920	5	1916 - 1920	30
1921 - 1930	146	1921 - 1930	174
1931 - 1940	133	1931 - 1940	170
1941 - 1950	22	1941 - 1950	12
1951 - 1960	157	1951 - 1960	9
1961 - 1967	76	1961 - 1967	0

As the data in Figure 4.4 and Table 4.5 have shown, whilst German has been influential as a medical language in the modern period, there has also been considerable movement towards the use of English in the postwar period. Language preference in Acta Scholae Medicinalis Imperialis Universitas culminated in English being the only language of medical communication in the final issues (Table 4.5).

4.3 The Language of Valued Research and Consultation

4.3.1 Introduction

By using samples of articles randomly selected at certain intervals from medical journals in Japan, we are able to obtain information on the language of citation or the language of the article cited by each author. The purpose of this inspection is to determine what language(s) valued biomedical research is being conducted in and referred to by Japanese researchers - to determine the relative importance or relevance of English language publications in Japanese medicine.

4.3.2 Analysis and Results

An inspection of 2,053 citations/references in the 1983 volume of the Hiroshima Daigaku Igaku Zasshi (Medical Journal of Hiroshima University) - Nos. 1-4 - indicates a fairly high percentage of English language article citations (Figure 4.5). 74% of citations refer to English language research and 24.9% to Japanese language research. There were 7 and 12 references to German and French studies respectively.

Figure 4.6 shows the distribution of citations in the 1983 volume of the Hiroshima Journal of Medical Sciences (Nos. 1-4). (Whereas the sister journal noted above is completely in Japanese this publication is in English and is described in greater detail in section 4.4 dealing with code-switching and lexical borrowing). Of 1,031 citations analysed, 65% refer to English language research and 31.8%

to Japanese language research. There are 25 and 2 references respectively to German and French studies.

It is suggested by my informant (Kawasaki, ibid) that the higher proportion of English language references in the former journal is no coincidence. The former journal (Hiroshima Daigaku...etc.) reports students' research at the M.D. degree level. Graduate research is expected to display a large degree of knowledge and up-to-date information. This up-to-date-ness is reflected by referring to English language research - rather than research published in other languages.

When the consultation tendencies of Japanese authors are viewed longitudinally as shown in Figures 4.7, 4.8, and 4.9. (in Archivs fur Japanische Chirurgie) a picture emerges of the development of the importance or relevance of English language publications to Japanese medicine (Figure 4.7). This occurs at the same time as a significant decline in the proportion of German as a vehicle of referred research (Figure 4.9). The suggestion of a German language decline in the surgical discipline is even more significant since Japanese surgery - of all medical fields in Japan - has long been guided by German surgical procedures, terminology and research. The title of this journal is, of course, German and postgraduates specialising in surgery at Kyoto and other universities are still obliged to take language examinations in German in order to gain a postgraduate degree.

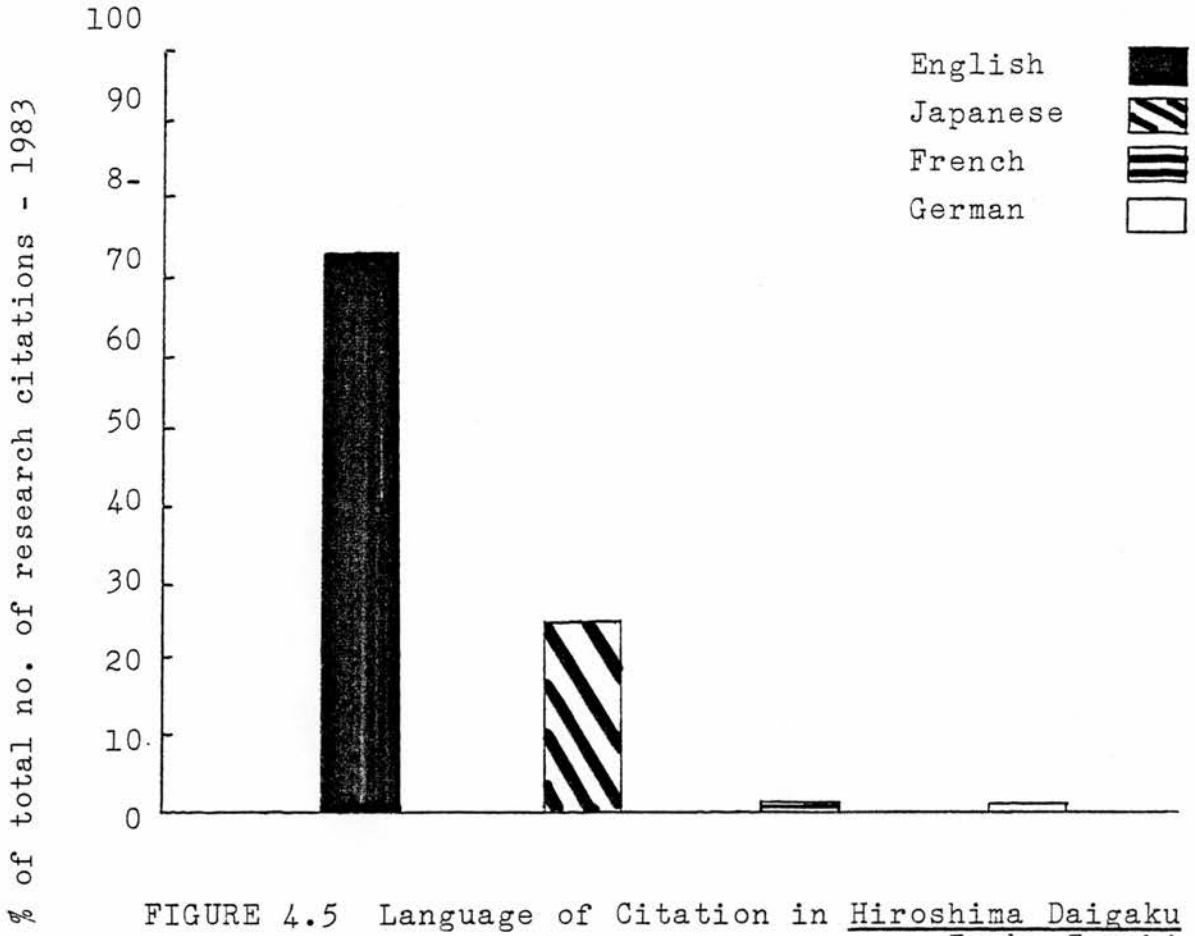


FIGURE 4.5 Language of Citation in Hiroshima Daigaku Igaku Zasshi

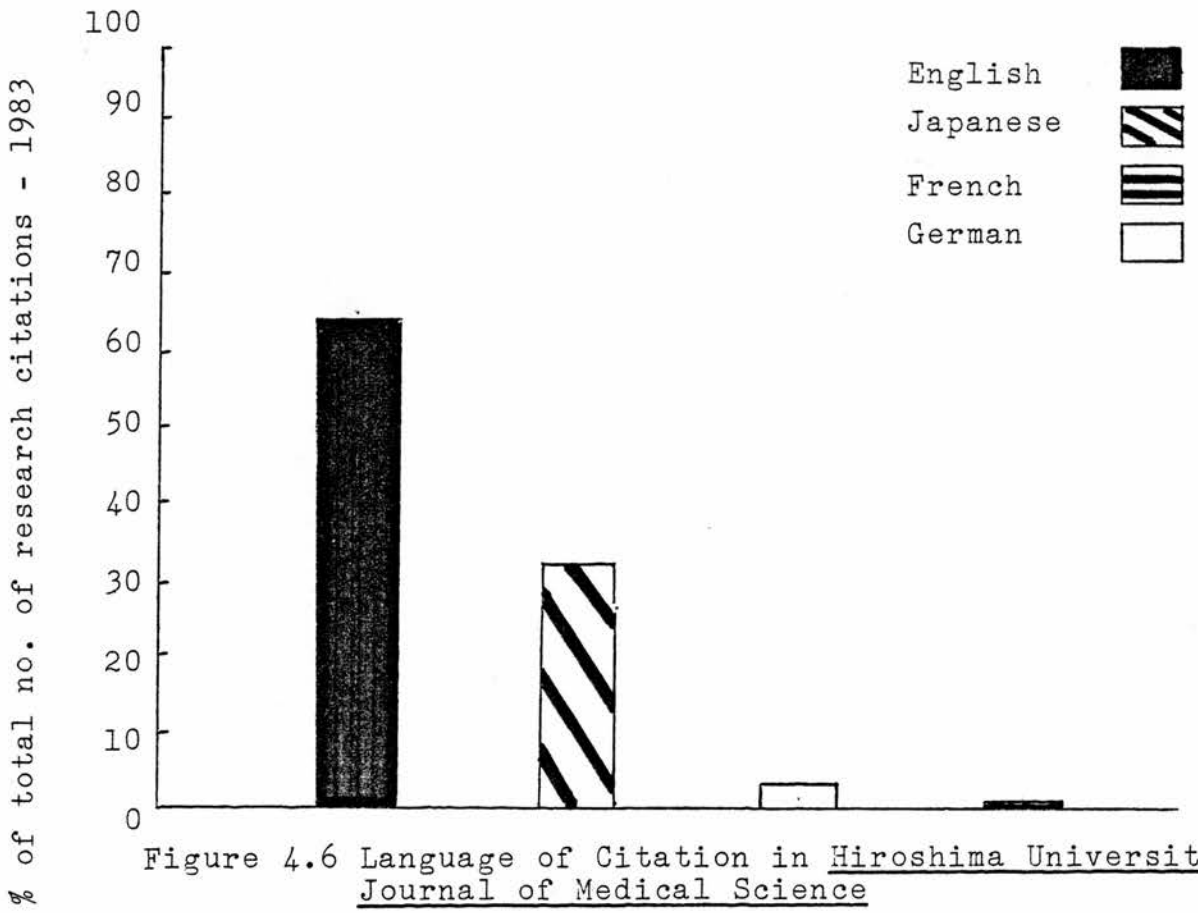


Figure 4.6 Language of Citation in Hiroshima University Journal of Medical Science

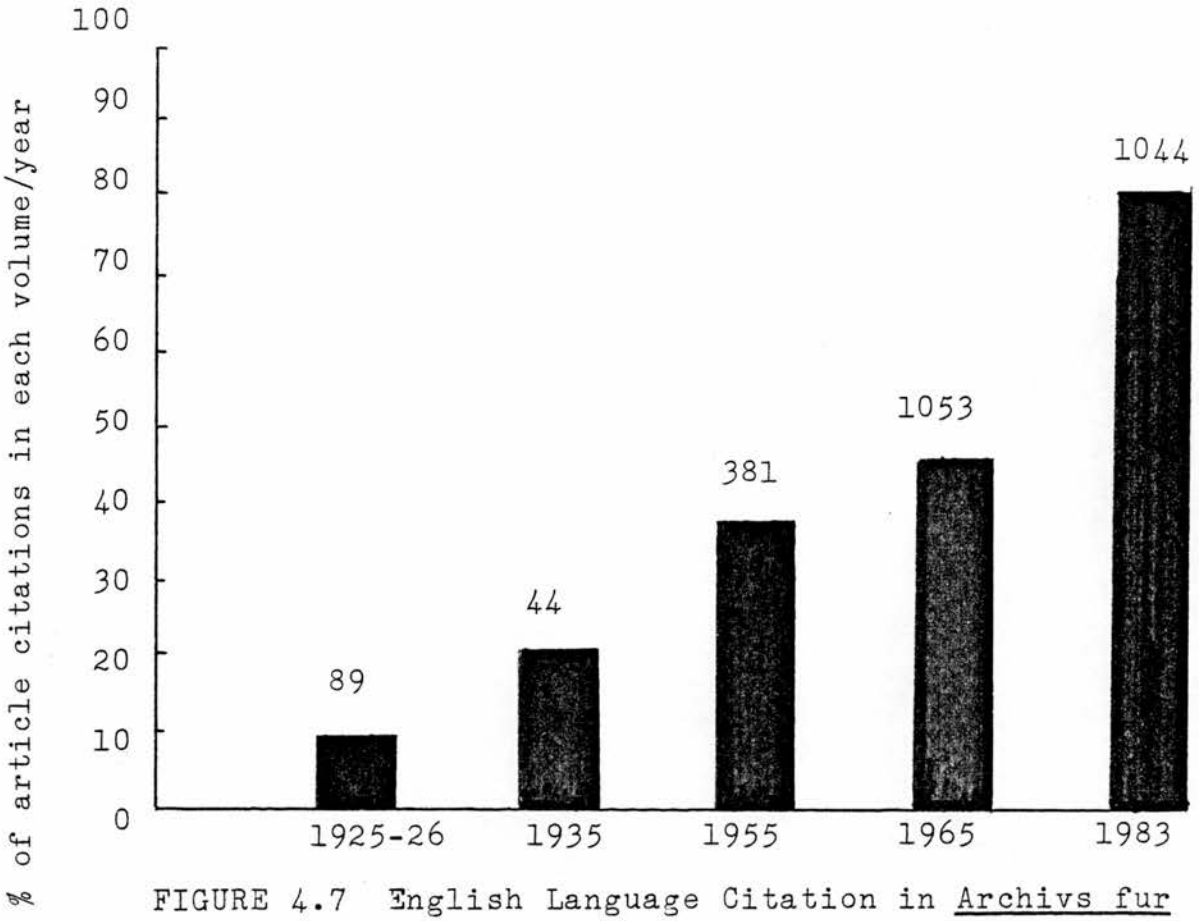


FIGURE 4.7 English Language Citation in Archivs fur Japanische Chirurgie

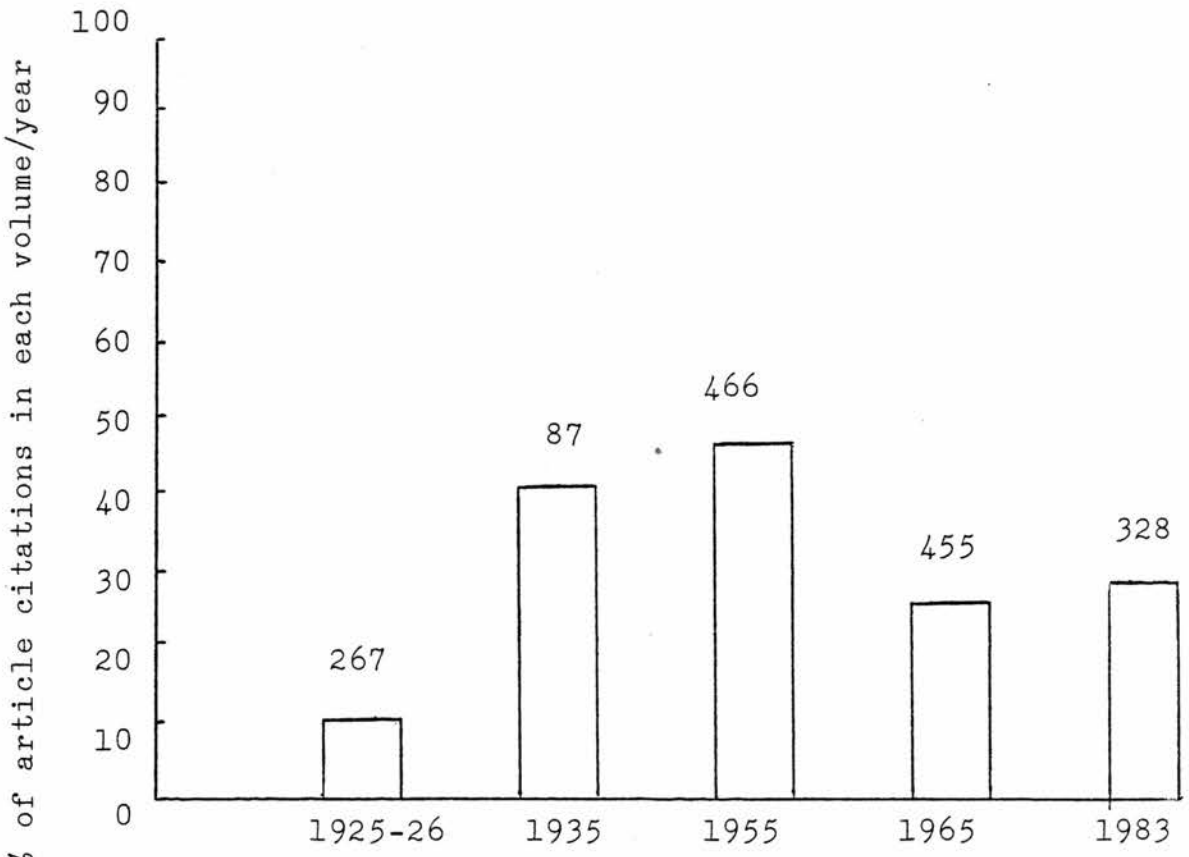


FIGURE 4.8 Japanese Language Citation in Archivs fur Japanische Chirurgie

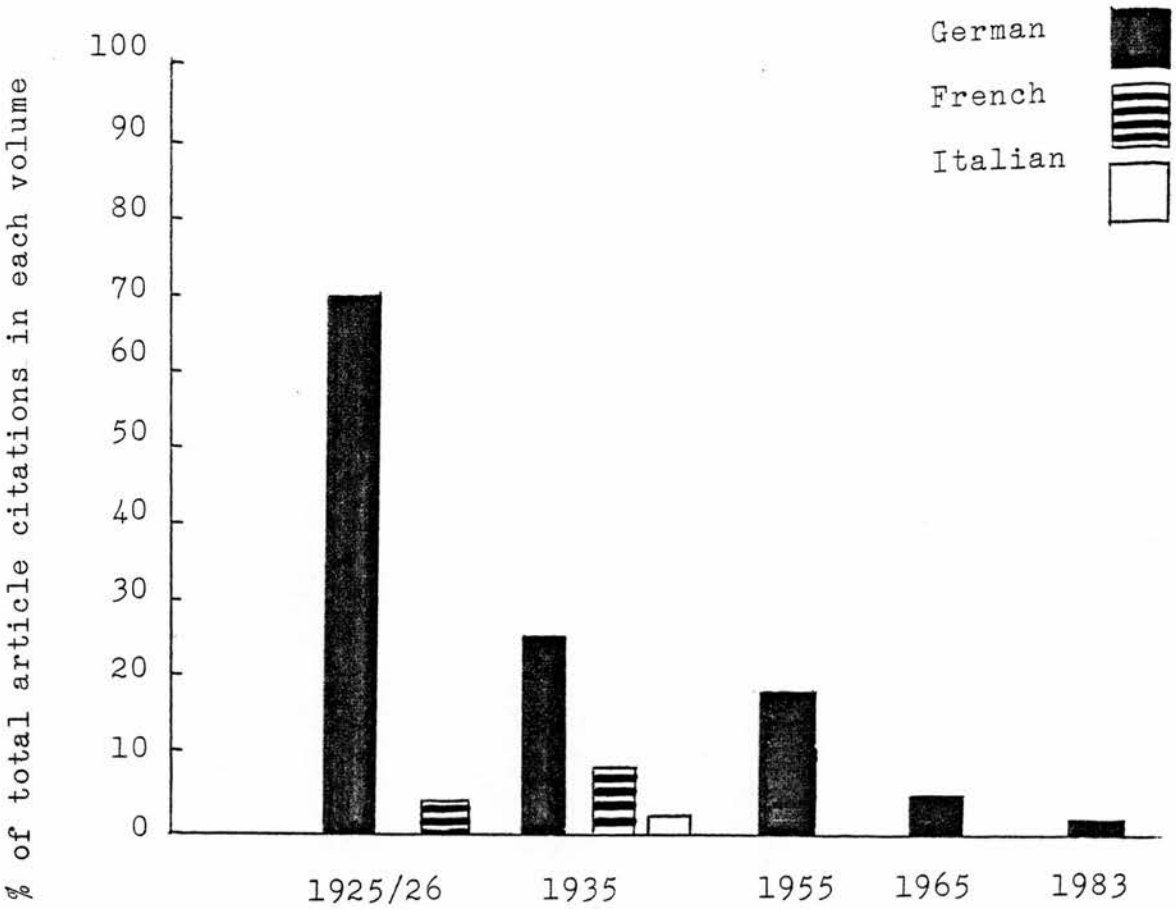


FIGURE 4.9: Foreign Language Citation (excluding English) in Archivs fur Japanische Chirurgie - 1925-83

4.3.3 Conclusion

The importance of English language publications to Japanese medical scientists has been shown by determining the language(s) of publications cited by Japanese authors in 3 journals. It appears that English, when also viewed developmentally, plays an increasing role in the research practices of Japanese doctors and medical scientists.

The relevance for language planning and specific language training procedures in medical education would seem to be that Japanese doctors are turning increasingly to English language information and therefore becoming more needful of the appropriate reading skills to accomplish this task. Medical students, it seems, will require training in a range of technical reading skills at an advanced level of English.

4.4 Code-Switching and Lexical Borrowing in Japanese Medical Writing

4.4.1 Introduction

The purpose of this section is to show the degree and type of penetration of English in the language organisation and editorial policy of Japanese medical journals. Code-switching and lexical borrowing from English will be analysed to show the special type of co-existence that occurs between English and Japanese in medical writing in Japan.

The first part (section 4.4.2) deals with the complex pattern of distribution of English among different medical journals. The second part (sections 4.4.3 - 4.4.5) analyses code-switching and borrowing with particular reference to a sample article and other extracts from some of the journals cited.

4.4.2 Patterns of Distribution of English

4.4.2.1 A Journals Matrix

The first example shows the wide range and type of language distribution across Japanese journals. Figure 4.9 presents 10 journals in a matrix organised from left to right in the direction of Japanese to English constituents.

At the left side of the matrix we have Igaku Chugai (Medical Chugai) published by the large pharmaceutical company 'Chugai'. Naturally, this journal possesses a strong clinical bias and is accompanied by many advertisements

	1 MEDICAL CHUGAI	2 JAPANESE JOURNAL OF DERMATOLOGY	3 JOURNAL OF HIROSHIMA MEDICAL ASSOCIATION	4 MEDICAL JOURNAL OF HIROSHIMA UNIVERSITY	5 REPORTS OF THE AEROMEDICAL LABORATORY	6 MEDICAL JOURNAL OF SHIMANE CENTRAL PREFECTURAL HOSPITAL	7 JOURNAL OF KYOTO PREFECTURAL MEDICAL UNIVERSITY	8 ARCHIV FUR JAPANISCHE CHIRURGIE	9 HIROSHIMA JOURNAL OF MEDICAL SCIENCES	10 SHIMANE JOURNAL OF MEDICAL SCIENCE
TITLE	00	00	00/++	00/++	00	00/++	00/++	00/++	00/++	++
KEY WORDS	00	00	none	none	++	++	++	00/++	++	++
ABSTRACT	00	00	00	00/++	00	++	++	00/++	++	++
TEXT	00	00	00	00	00/+	00	00/+	00/+	++	++
TABLES etc.	00	00/+	00/+	++	00/+	++	00/+	++	++	++
REFERENCES	00/++	00/++	00/++	00/++	00/++	00/++	00/++	00/++	++	++
ADVERTISEMENTS	00/+	00/+	00/+	none	00/+	none	00/+	00/+	none	none

FIGURE 4.9 Variety and Patterns of Japanese/English Distribution Among Medical Journals in Japan

Key: 00 Japanese ++ English 00/++ either in Japanese or English 00/+ mainly Japanese ++/0 mainly English

for pharmacological preparations and therapies. (The role of English in medical advertising is analysed in 4.4.5 of this chapter).

Most articles in Igaku Chugai contain references to research in Japanese laboratories. This is understandable given the fact that strict laws governing the sale of foreign drugs encourage domestic research. The majority of research references and the overall orientation of the journal (key words, abstract, text and tables) is towards Japanese rather than English.

In the Nihon Hifugaku Zasshi (Japan Journal of Dermatology), another clinical publication, tables and figures regularly appear in English, i.e. captions and accompanying explanation. All other constituents (title, key words, abstract, etc.) appear in Japanese.

The Hiroshima Igaku Kyokai Zasshi (Journal of Hiroshima Medical Association) is a professional journal of the local, regional medical association and contributed to by its members. It provides translated titles in English in the footnotes and occasionally includes tables and diagrams in English, the rest in Japanese as shown in the 'Contents' page of the journal; (the contents page giving no hint of English inclusions - Appendix 4.1).

In contrast, the Hiroshima Daigaku Igaku Zasshi (Medical Journal of Hiroshima University) includes an abstract in English for each paper. It is instructive to compare the role of English in this publication with its sister journal of Hiroshima University's Faculty of Medicine -

Hiroshima Journal of Medical Sciences - which, nevertheless, appears entirely in English (apart from bilingual title). Why this different language policy?

The rationale for the use of different languages in two faculty journals is significant for this study. Hiroshima Daigaku Igaku Zasshi does not contain contributions from members of staff but the thesis reports of graduate students. Students write their theses in Japanese. The Hiroshima Journal of Medical Sciences contains faculty contributions in most cases.

Here we can see a contrast between the influence of research quality, prestige, and perhaps even superior language fluency among departmental staff as against graduate students.

Key words play an important part of journal organisation in Japan - unlike western journals which do not always include the key concepts in an article (no key key words in the Lancet, Circulation, J.A.M.A., Stroke, Nature, for instance). The Reports of the Aeromedical Laboratory does, however, include key words in English, not in Japanese. In fact, this journal of the 'Jieitai' (Japanese Self-Defense Forces) aerospace medical laboratories includes a large input of English outwith the text which is in Japanese.

Reports of the Aeromedical Laboratory and Kyoto Furitsu Ikadaigaku Zasshi (Journal of Kyoto Prefectural University of Medicine) illustrate a paradox regarding the extent of English usage in the organisation of Japanese medical journals. Both journals provide key words for both Japanese

and English language articles but not Japanese key words for articles in English. This suggests a bias towards English.

Unlike the previous examples, Archiv fur Japanische Chirurgie ('Nihon Geka Zasshi') pursues a largely bilingual policy in all journal constituents except the text which is in either English or, more frequently, Japanese. In an interesting sign of the journal's past history, instructions to the contributor are written in German as shown in this extract:

> "Die Manuskripte sind ausschliesslich an Herrn Prof. T. Tobe Chirurgische Universitatsklinik, Kyoto, Japan, zu senden"

and elsewhere

> "Für Redaktion verantwortlich: Prof. T. Tobe in Kyoto"

The table of contents headed "Inhaltsverzeichnis" is written in English - even when papers (the majority) are written in Japanese. This is a good example of code-switching with three languages.

The Shimane Journal of Medical Sciences states the language policy of Shimane Medical University's editorship:

> "In principle, papers written in concise English are accepted for publication"

But this is an ambiguous statement. The phrase "concise English" seems to imply two conditions for acceptance of a submission: one stylistic (i.e. must be "concise") and

another referring to the language of submission (i.e. must be "in English"). There is the problem of the correctness or grammmatical adequacy of the paper's language, in addition to stylistic considerations. In the case of the Shimane Journal of Medical Science each paper is refereed for content by an internal medical committee and then vetted for grammatical, lexical and stylistic accuracy by a native speaker. Editorial language policy for this journal involves elaborate planning as well as financial investment since the language editor (a nurse by training) is flown to the city from Kyoto (500 miles away) two or three times a year. Being a new, state-funded university it can afford to pay for such elaborate language servicing.

4.4.2.1 Discusion

From what we have seen in the patterns of language selection in Japanese journals, language 'switching' takes place in all sections of journal organisation and policy. Four more points can be made.

(1) English does not occupy the entire field of medical writing - anymore than Japanese does. Both languages, rather, percolate back and forth through medical publications in different quantities and in different patterns.

(2) Another sense in which we can interpret the language selection process - other than by just looking

at the distribution of English - is that language policy differences reflect a cline of accessibility. This means the degree to which information contained in the published research becomes accessible to the non-Japanese reader.

The most common explanation advanced by doctors in Japan for the use of English intranationally is that it facilitates an international readership for their publications. The question might then be logically asked what constituents of the article provide the most accessibility? And in what order? For instance, might the visual items and captions provide more or less help in understanding a Japanese paper than, say, an abstract?

A cline of accessibility would seem to imply that there are levels of access to the paper by the non-Japanese reader. Accessibility depends upon the type of language patterning among the various article constituents.

(3) Some medical institutions like the medical school of Hiroshima University produce not one but two research publications in Japan^ese and English, separately. I have suggested that quality of research is one reason for the difference. Teams of staff/researchers want maximum exposure for work which may expend large resources of manpower, time and finance. These reports, in all cases multi-authored, are published in the English language university journal and are highly accessible to the international community.

Another reason for separate language journals is

advanced by an informant who is also a member of the editorial board of both publications of Hiroshima University. He has explained the phenomenon as follows:

> "Yes, you can see that the graduate students put their papers in the MJHU (the Japanese language journal) but not all the papers are by research students. The ones who write for MJHU are those who can't write in English and you get members of staff who can't write. They contribute to that journal too."

(4) From contrastive observation of the situations of two of the journals in the matrix (Shimane Journal of Medical Science and Medical Journal of Shimane Central Prefectural Hospital) it seems that the presence of suitable language editors for house publications is a factor in the language policy of journals. In Izumo-city, Shimane, the situation is as follows: Shimane Medical University employs a full-time, native English-speaking lecturer for language teaching purposes. This person, together with medical visitors from abroad on research projects, helps Japanese doctors with their manuscripts. In addition, the institution itself employs a full-time language editor.

The nearby general hospital is less well-equipped. It has no facilities for language editing. Articles in English do appear very occasionally (see Appendix 4.2). The mistranslation of title papers betrays an absence of language checking. The sole English paper in the 1983 volume was, according to the author (Tominaga 1983) proof-read by the British lecturer at Shimane Medical University.

4.4.3 The Sociolinguistics of Borrowing in Medical Japanese

4.4.3.1 Introduction

Code-switching is a well-known sociolinguistic phenomenon and has been studied to a considerable degree in the area of verbal interaction between individuals (e. g. Labov's investigation of Puerto Rican speakers in New York, 1968). But what has not been generally recognised and what the examples in the following sections suggest is that code-switching may operate even in highly formal[1] and conventionalised written discourse such as scientific communication.

The second aspect of this section deals with the use of English loanwords in Japanese medical discourse (written). Lexical infusion in Japanese from linguistic sources not native to that language is a common phenomenon. The borrowing process in Japanese is described and detailed reference made to a sample paper from one of the previously cited journals: 'Nihon Hifugaku Zasshi' (Japanese Journal of Dermatology). The complexity of the code-switching and loan process must also be seen in light of the fact that the paper

---

[1] 'Formal' style is contrasted here with the 'intimate' or casual style in Joos' sense (1959: 110). 'Conventionalised' refers to the surface organisation of a biomedical paper as laid down in the 'Vancouver Style' adopted by almost all major medical journals.

is classified by Index Medicus as 'Japanese language'.

4.4.3.2 Borrowing in Japanese

Haugen (1950) and Bolinger (1975) point out that some form of bilingualism is the basis for the growth and sustenance of borrowing. However, Bynon (1977) while admitting that the transfer of language material across language boundaries may be said to be the result of some measure of bilingualism on the part of those who do the carrying there are also less intense contacts which nevertheless result in the borrowing of loanwords. She cites the names of what she calls "such objects of international trade as tea, coffee, or tobacco" (Bynon, ibid: 24) as an example of words which became part of the consumer's language.

If there is to be language contact then this presupposes some degree of cultural contact and in the case of Japan such contact followed well-defined lines. From the West, triggered by the Meiji Restoration in 1871 and later during the American occupation from 1945, massive lexical infusion took place in the areas of: international trade and business, science and technology, education and the health sciences, and so on.

There is precedence for foreign borrowing in Japanese especially in the technical or scientific areas where compound terms (see Ichikawa and Hattori below) are much in evidence for the naming of substances, anatomical

parts, diseases, etc. I refer, of course, to the influence of Chinese in the field of medical description in Japanese.

The borrowing phenomenon in medical writing is that English loanwords interact with (old) Chinese loan-words in the form of Sino-Japanese characters and that the very nature of the Japanese writing system[1] seems to encourage noun loans either by these Sino-Japanese characters or by importation from English. This requires further explanation.

It is generally supposed that half of all Japanese vocabulary is of Chinese origin. 'Kango' (漢語) are words borrowed from classical Chinese. Japanese uses Chinese characters or 'kanji' (漢字) in writing. It previously borrowed a number of words from Korean but from the 6th-9th centuries it was contact with China that directly influenced the phonology, grammar, and basic vocabulary. It was during this time that many Sino-Japanese blends entered standard Japanese. Chinese characters play a powerful role in the word formation of written Japanese. Each kanji possesses both an 'on' reading - the Chinese loan morpheme - and a 'kun' reading

---

[1]The Japanese writing system has four sets of symbols: approximately 2000 'kanji' (Chinese based ideographs) for the most common lexemes, a syllabary of 46 basic symbols called 'hiragana' used for inflections and other morphemes and an angular version of hiragana called 'katakana' used for italics and foreign names. 'Romaji', the phonemic transliteration system uses the English alphabet.

- the indigenous Japanese word. Consider the following kanji for 'ointment' or 'salve' used in the description of drug preparations:

'TO' = 'on' (Chinese loan morpheme) reading

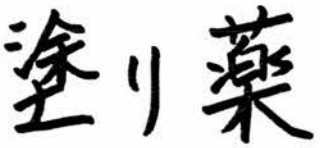
'NU' = 'kun' reading

When combined with the word for 'medicine' (the sign outside a Japanese chemist's shop)

'YAKU' = 'on' reading

'KUSURI' = 'kun' reading

and the inflection from hiragana ('ri') we get the full term for 'ointment':



= 'nurigusuri' (/k/ becoming voiced in this compound /g/).

Meanwhile, the 'on' reading of 'kusuri' goes on to combine with other compounds such as:

= 'yakugaku' (pharmacology)

= 'yakuso' (medicinal herb)

= 'yakuzaitanteki' (drug addiction)

At least one Japanese linguist has noticed that a large part of Chinese borrowing in modern Japanese employs

compound terms or derivative loanwords developed in Japan since the massive inroads made by foreign (and largely English language mediated) science and technology occasioned by the Meiji Restoration (Ichkawa and Hattori 1955). These combine two or more old Chinese morphemes but used for a new object or phenomenon.

The crucial importance of kanji for the spread of English loan words is based on the following points:

(1) That English medical terminology, in particular nouns and noun phrases, expands in Japanese medicine according to the pattern of borrowing set by the long tradition of kanji loans: these loans being almost entirely lexemes for common concepts such as diseases, organs, etc.

(2) Government policy which has progressively reduced the number of kanji which can be used in newspapers and books, as well as in the educational system, will inevitably restrict the availability of written symbols for new and emerging biomedical concepts. This gap has been filled by English. There is evidence in the number of new loanwords for objects and concepts related to medical technology, therapy, drugs, syndromes, etc.

4.4.3.3 The Formation of English Medical Loanwords in Japanese

A loanword, commonly a word borrowed from another language, is a word of foreign origin which must be made to conform to the phonology of the recipient language as well as being grammatically integrated. Robins (1964) explains the process of phonological construction as follows:

> "Some of the foreign words so used by individual speakers pass into general currency in the language, being altered in pronunciation in the process in the direction of the sounds and phonological patterns of the language acquiring them" (Robins 1964: 312).

The following examples are taken from Nanzando's Medical Dictionary (1979) and from several of the journals mentioned in section 4.4.2.

(1) The term 'hybrid' is sometimes applied to loanwords in which one element has been borrowed, the other part being native. Japanese has borrowed the word 'horumon' and created the hybrid:

'ihorumon' 胃ホルモン ('i' = stomach)

for 'gastric hormone'.

The phrase 'inshurin shokku' is similarly combined with 'ryōhō' (method) to form the hybrid for 'insulin shock therapy':

'inshurin shokkuryōhō' インシュリンショック療法

This is an instance of unit hybridization or mixing within the noun phrase.

(2) Coinage occurs in medical loans as a result of more semantic word building:

e.g. 'sutomai' for streptomycin ストマイ

Here are other examples:

'sufu' スフ for staple fibre ('suteipuru faibaa')

'orebin' オレビン for oleum terebinthinae

'kate' カテ for catheter ('kateteru')

'konbi' コンビ for combination

(3) In loan translation or calque the form and meaning of a foreign word, instead of being carried over into the recipient language as a unit, is merely employed as a model for a native creation. For this to be possible it must be both morphologically complex and semantically transparent. The process consists of substituting for each of the morphs the semantically closest morph in Japanese and combining these according to Japanese rules of word formation. A possible instance from Japanese medical discourse is the tendency to make verb phrases of loan nouns by adding 'suru'. The verb suffixing in Japanese is by the semantically ambivalent 'suru' designating both do and go and make. Consider the following examples noted during an informal conversation on a medical topic by medical students (Shimane Medical University talking to each other about intensive care facilities in the university hospital):

'puresshā o daun suru' = to reduce (blood) pressure

'puresshā o appu suru' = to raise (blood) pressure

'kanja o herupu shinai to' = (one) must help the patient

'modereito shite ita' = was moderated

'omitto shita hō ga ii' = it's better to omit (it)

'kangofu sugu panikku suru' = the nurses soon panic

'sono shii ō o auto sasete' = to force out CO (carbon monoxide)

'byoin o patorōru suru' = to patrol the hospital

'panku suru' = to puncture ('pankuchā')

'ope suru' = to operate (on a patient)

In this way, the overall meaning of the new construct will be modelled on the foreign source and the constituent elements themselves whilst the rules governing their combination are native (as for example in the modal negative form of 'suru' - 'shinai to' in 'must assist the patient'). As a result, the newly created form is fully integrated in the native speaker's speech.[1]

---

[1] The following incident occured during field work illustrating that English loanwords can sometimes have more than one meaning in a context. I attended a local health clinic ('byōin') with symptoms of gastric pain and an abnormally high pulse rate. Explaining my symptoms I added "fiibā o shite imasu, sono ue ni" (I have a fever as well). The doctor looked puzzled and replied "disco dancing is probably not relevant here". The term "fiibā" which I had wrongly borrowed means 'to disco dance' (from the American film Saturday Night Fever). 'Netsu' is the correct medical term for 'fever, high temperature'.

4.4.4 An Example of English Switching in a Japanese Medical Paper

4.4.4.1 Introduction

The language of the medical paper described below is classified in Index Medicus as "Japanese". It was published in 1981 in Nihon Hifugaku Zasshi (Japanese Journal of Dermatology), Vol. 19, No. 13, with the title: "The Role of Mast Cells in Inflammation". The author of this paper, a dermatologist, is a faculty member of the University of Hiroshima in which my field work was conducted. The paper is typical of the style of presentation in this journal and was selected because of the convenience of having the author at hand as an informant and because of my familiarity with Japanese writing in the field of dermatology.

The full text of the article is contained in Appendix 4.3.

Paragraphs are identified in numerical order (P1,P2..).

The content of the article may be summarised thus:

> The aim of this paper is to show the roles of immunologic and non-immunologic factors in the release of chemical mediators from mast cells (i.e. inflammation conducting cells). It identifies and describes these various mast-cell dependent mediators, in particular, reactive mediators found in smooth muscle such as histamine and heparine. Experiments are described which show the results of antigen - induced histamine release from guinea-pig skin. (Edited translation of 'Abstract')

4.4.4.2 The Influence of English loan words

It is generally claimed that members of the open classes such as nouns, verbs and adjectives are more readily borrowed than those of the closed classes (pronouns, prepositions, conjunctions). Haugen (1950) claims that nouns are the most frequently borrowed class everywhere.

Table 4.6 seems to confirm Haugen's claim with 60 noun loans from English as opposed to 16 verb loans and 21 adjective loans.

Bynon (1968) has suggested that the comparatively high proportion of nouns among loan words in a language is simply a reflection of the overall sizes of the classes involved and of the fact that the great majority of borrowed words are the names of new objects or materials. This leads us to the point which will be dealt with below concerning the high proportion of noun loans which are, in fact, names of special chemical compounds and experimental materials.

(i) Loan Word Mixing

(A) 'Assimilated' or 'integrated' loans

This type of loan refers to words which have become 'Japanized' by means of Katakana and thereby subjected to phonological and orthographic change. Examples of this are:

TABLE 4.6 Direct Loanwords Classified according to Grammatical Usage (exc. reference section words)

Nouns

liberators, agents, allergy, anaphylatoxins, factors, cells, release, table, receptor, esterase, control, glucose, muscle, mediators, protoglycans, serotonin, acid, metabolites, digopeptides, enzymes, chymase, arylsulphatase, N-acetyl-substance, microtubules, effect, microfilaments, Guinea-pig weight, Calcium, Antigen, experiment, count, activity, eosinophils, filter, chamber, response, power, terms, fields, solution, animal, saline, reaction, filtration, target, Sephadex-B, gel, preparation, mean, degradation, platelet, power, antiserum

Verbs

involved, induced, sensitized, corrected, subtracting, corresponding, activating, expressed, assessed, complement, migrating, selected, modulate, treated, precipitated, activating

Adjectives

chemical, physical, smooth, reactive, chemotactic, structural, Arachidonic, reaginic, cyclic, slow, bound, free, vasoactive, dependent, spontaneous, high, crude, homologous, immunologic, non-immunologic

Adverbs

passively, in vitro, in vivo, actively, completely, also, randomly

Determiners

the, a

Pronouns

its, which

Prepositions

of, in, from, on, by, through, as

Enumerators

two

TABLE 4.7 English Loanwords Classified according to Semantic Categories

Names of Disease

Text insertion: anaphylaxis (7.1)
Diagram insertion: inflammation (footnote), allergy (F.1)

Experimental Apparatus

Diagram insertion: guinea-pig (T.2), Boyden's chamber (T.3), Tyrode solution (T.3), Sephadex G -200 (F.5), animal (F.4), preparation ("histamine.." F.6)

Chemical Substance Names

Text insertion: serine esterase (6.12), glucose (6.13) arylsulphatase (10.1), histaminase (12.3), phospholipase D (12.1), histaminase - N - methyl-transferase (15.2), aminoguanidine (15.6)
Diagram insertion: serotonin (T.1), Arachidonic acid metabolites (T.1), oligopeptides (T.1), lipid chemotactic factors (T.1), heparin (T.1), Chondroitin 4 and 6 sulphate (T.1), Dermato-sulphate (T.1), Chymese (T.1), N-acetyl-beta-D-glucosaminidase (T.1), Beta-glucoronidase (T.1), calcium (T.3), Saline (F.1)

Experimental Process and Description

Text insertion: in vitro (5.9), slow-reacting (7.1), factor (11.1), activating (12.5), bound (13.14), free (13.15), in vivo (12.9)
Diagram insertion: release (F.1), involved (F.1), secretory processes (F.1), passively sensitised (F.2), induced (F.2), corrected (T.2), subtracting (T.2), spontaneous..release (T.2), effect..on (T.3), assessed (T.3), randomly selected (T.3), filtration (F.5), activity (F.6), response (T.3), incubation (F.3), duration (F.3), degredation (F.6), homologous-reaction (F.4), detectable (T.2)

Physiological Description

Text insertion: target cell (17.2), smooth muscle (7.4), microtublules (6.16), microfilaments (6.16)
Diagram insertion: mast cell (F.1), human skin (F.2), guinea-pig skin (T.2), immuno/non-immunologic (F.1)

Semiological Loan Features

1. Abbreviations
   Text insertion: IgE (6.2), ECF-A (1.9), SRS-A (7.1) Ca^{++} (11.6), PCA (15.4), AMP (15.5)
   Diagram insertion: NCF (T.1), PAF (T.1), mM-OD (F.6)

2. References
   Int. Arch. Allergy Appl. Immunol.
   Hiroshima J. Med. Sci.
   Adv. Immunol.
   Arch. Dermatol.
   J. Exp. Med.
   Clin. Exp. Med.
   Clin. Exp. Immunol.

3. Directing and Labelling Devices
   Fig. 2, Exp. No., min., hr., Left, Right, mug/g, Frac.No.

レアジン (reajin) reajin-ic (7.7)

ヒスタミン (hisutamin) histamine (2.1)

モルモット (morumotto) marmot (8.1)

(B) Compound Insertion

This refers to hybridization within a noun phrase or verb phrase or similar complex unit:

"hisutaineizu katsudō" histamine activity (14.11)

"arerugi hannō" allergy reaction (2.6)

"masuto saibō" mast cell (6.10)

(C) Sentence Insertion

By means of embedding or apposition a sentence from English is inserted into the Japanese text:

"Slow Reacting Substance of Anaphylaxis (SRS-A): I型アレルギー反応において古くから知られているも…. (7.1-2)

(D) Idiomatic Insertion Loan

This refers to idioms and collocations found within the Japanese text:

"SRS-A は smooth muscle を徐々に収縮させる (7.4)

"ヒスタミンは H_2-Receptorを介して target cell 内の cyclic AMP" (15.8)

"ヒスタミンを分解する histaminase SRS-Aを不活化する arylsulfatase-B platelet activating factor を不活化する phospholipase D などを含有しており" (14.6)

(E) Duplication

By this term in meant an item from English that carries over into Japanese the identical usage which it possesses in English but fully nativized - in this case Japanized by means of Katakana.

1 ピークの下降脚に一致してみられる (14.11)
(the peak - in the graph)

モデルとして ---- のこの反応 (13.3-4)
(as a model)

バランスによって左右されるであろう
(depending on the balance) (12.3)

(ii) Code-Switches

(A) Figures and Tables

Undoubtedly, the most obvious examples of complete (i.e. un-Japanized or mixed) switches to English occur in the figures and tables. It should be pointed out that not only do these items summarise data in the text but that they also provide additional data - introducing new information which is not available to the reader in the text.

Some additional data such as information about experimental procedure (as, for example, in the footnote to Table 3 in the text) relates to the experimental method used (e.g. description of the use of 'Boyden's Chamber'):

Table 3 Effect of Calcium on *in vitro* Release of ECE-A and Histamine from Actively Sensitized Guinea-pig Skin by Antigen

Experiment No.	Ca^{++} (mM)	Eosinophil chemotaxis* (mean cell count)		Histamine release (%)	
		Antigen	Tyrode solution	Antigen	Tyrode solution
1	1.8	12.3	0.9	25.7	1.4
	0	2.7		4.7	
2	1.8	7.9	1.6	23.4	0.9
	0	0.3		3.6	
3	1.8	11.2	2.2	23.3	1.0
	0	1.3		0.9	

* ECF-A activity was assessed in terms of the cell count of eosinophils migrating completely through the filter of Boyden's chember. The chemotactic response was expressed as the mean cell count of eosinophils of 10 high-power fields randomly selected.

Note, also, the elaboration of specific items in English in which the method of assessment of cell activity is described from the initial term "eosinophil chemotaxis". Elsewhere, the same type of occurence can be seen. In Table 2, for instance, the results from ten experiments are given under the heading "histamine". This is explained in the footnote as:

> "antigen-induced histamine release was corrected by subtracting the corresponding spontaneous histamine release" (Footnote).

(B) References

Yamamoto does not refer to research published in Japanese. The 'bunken' (文献) or references at the end of the paper show that four out of twenty-one references are to papers written in English by Japanese researchers.

When questioned on this point, the author replied:

> "That is one reason why I write it in Japanese. It makes my work known generally to Japanese dermatologists who aren't in this particular area of dermatology. Ordinarily they wouldn't have cause to read my work in English."

As with the insertion of figures and tables in English, references to research contain new information in English requiring of the Japanese reader reasonable linguistic competency. There is also the need to be able to read and understand the many direct loans which occur in the text.

(iii) Rhetorical and Grammatical Aspects of Loans and Switches

(A) English loanwords are frequently employed in the paper in the context of semantic opposition and contrast. For example,

- "bound" (histamine) vs "free" (histamine) (1.3-4)

Other examples include:

- "in vitro" vs "in vivo" (1.4-5)
- "passively" (sensitized vs "actively" (Tab.2)
- " immunologic" vs "non-immunologic" (Fig.1)
- "mast" (cell) vs "target" (18.1 and 19.2)

Excepting the "mast cell"/"target cell" contrast,

these oppositions occur in figures and tables or as direct loans within the body of the text and are not katakana-ised.

(B) The spread of loan words throughout the organisation of the paper is uneven. The unevenness seems to depend upon the rhetorical aim of the particular section. For example, in the two sections at the beginning of the article (paragraphs 1-3), abstract (要旨) and introduction (はじめに) there is no direct borrowing except for three abbreviations (ECF-A, IgE, Fig.1). Assimilated or Japanised loans do appear and these are the key words of the paper:

ヒスタミン (histamine)
ヘパリン (heparine)
アレルギー (allergy)
マスト (mast)

The distribution of English loans suggests that those sections which present or introduce a topic, or sum up, employ loans much less frequently and switch with English less frequently than other sections. The 'data-intensive' sections (paragraphs 9-10 and 11-19) which present methods, materials, and results show greater evidence of borrowing and switching.

Table 4.7 shows that English terms are used in figures and diagrams, in detailed physiological description, experimental processes, description of laboratory apparatus and the labelling of chemical substances.

(iv) English Loanword Supplementation in Medical Japanese

English loanwords help fill gaps in the vocabulary of technical Japanese by providing chemical labels for essential substances.

Chemical labelling takes place, as with all other cases of borrowing, at the level of direct loans (e.g. "Tyrode Solution", "Sephadex" etc.) and by integrative or Japanised loans such as ヒスタミン('hisutamin'), ヘパリン ('heparin') and so on.

This evidence seems to support the conventional view in sociolinguistics that some sort of inadequacy in the receiving language is one of the main causes of borrowing. But why does Japanese (medical writing, at least) employ two forms of linguistic borrowing for the same class of expression? Why not Katakana only, for instance?

I suggest the following explanation. There are many pharmacological substances used as ingredients for across-the-counter pharmaceutical preparations in Japan. Because drug store chemical names are in common use, or at least familiar to any consumer who cares to read the label on his or her medication, the substance name has reached a deeper stage of loan integration in Japanese.

Evidence of this comes in the following example. The substance 'histamine' is commonly associated with remedies for hay fever, congestive disorder or catarrh in terms of the anti-histamine properties which the medication contains. In this paper, therefore, 'histamine' is katakana-ised in

all cases except where it occurs within a switch. On the other hand, the cognate will not be sufficiently familiar in the consumer world to warrant integration by Katakana.

(v) Levels of Loanword Integration in Medical Japanese

The paper shows that there are various levels or stages of loan integration from English in medical Japanese. Take, for instance, the expressions "masuto saibo" (mast cell) and "target cell". It seems puzzling that whereas 'mast cell' undergoes complete transformation by Katakana and Kanji to マスト細胞 'target cell' on the other hand, remains in English?

The author explained, interestingly, that 'target cell' is "just easier to write in English than in Japansese Kanji". He added that "it also sounds odd if you put it in Japanese" and offered the terms "hyōteki saibō" (標的細胞) as a possible alternative - but an unsatisfactory one.

Might there be a grammatical explanation also? I think it is possible to suggest, in this case, that the noun modifier 'target' in the compound, being a direct loan from English prevents the conversion of the head word 'cell' to 'saibō' in Kanji (細胞). Notice that the whole expression "target cell" appears in English whilst elsewhere 'cell' is translated into Kanji! Could we then suggest that when a modifier loanword is in English (direct loanword) the headword is prevented from conversion to Japanese - suggesting a pragmatic rule of loanword (noun compound) formation in Japanese?

4.4.5 English in Medical Advertising

4.4.5.1 Introduction

In this section, I shall outline the role of English in Japanese medical advertising. Nine advertisements were chosen at random from three journals: a specialist journal 日本皮膚科学会 (Japanese Journal of Dermatology), Vol.93, No.9, 1983; 京都府立医科大学雑誌 (Journal of Kyoto Prefectural University of Medicine), Vol.92, No. 7, 1983 (the house journal of a medical school); and one general practice-oriented journal 広島医学会発行 (The Journal of the Hiroshima Medical Association), Vol. 36, No.9, 1983.

4.4.5.2 The Advertisements

The actual percentage of English loanwords among the nine advertisements is not very great: 7.2% (Table 4.8):

TABLE 4.8 Percentage of English Loanwords in Japanese Medical Advertising

Advertisements	% of Loanwords	Total No.of Words
Elase, Bizudamu, Neutrogena, Palavale, Hosumishin S, Nipolazin, Gesutoniiru, Herbesser, Nifuran	7.28 (47)	645

The following points describe those places in which English appears in the commercial presentation:

(i) The product label is invariably a Katakana term which is an anagram of the various pharmacological constituents (see Table 4.8). No Japanese-based name is given to any of the drugs.

(ii) The form of the drug is always a loan-term. For example:

(a) "Hosumishin" is packaged in two forms:

カプセル (kapuseru) capsule form (line 15)

ドライシロップ (dorai shiroppu) dry syrup (line 15)

(b) "Elase" (Appendix 4.4) comes in the form of (baiaru) phial (Title)

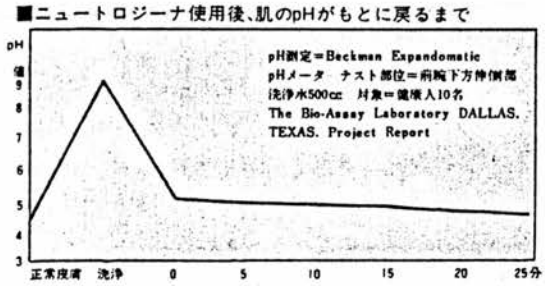
(c) "Bisudamu" (below) comes in the form of (kuriimu) cream.

(iii) Some coinages occur in these advertisements which indicate that loans possess an informative function. Consider the following example for Neutrogena, a dermatological soap:

脱脂力のコントロールで
自然の皮脂を守る石鹸です。

ニュートロジーナは、デルモファーマシー(皮膚薬学)の考え方に基づき開発された低刺激性石鹸です。脱脂力のコントロールと、肌に石鹸成分を残さない事により、自然に肌にそなわっている皮脂を取り過ぎず、洗浄後の肌のpH回復もスムーズになりました。また、色素・香料を含みません。

■ニュートロジーナ使用後、肌のpHがもとに戻るまで



〈ニュートロジーナ文献集より〉

おだやかな脱脂力です。

肌に自然に備わっている皮脂をとりすぎないので、乾燥性の皮膚トラブルのある方にもご使用いただけます。

低残存性です。

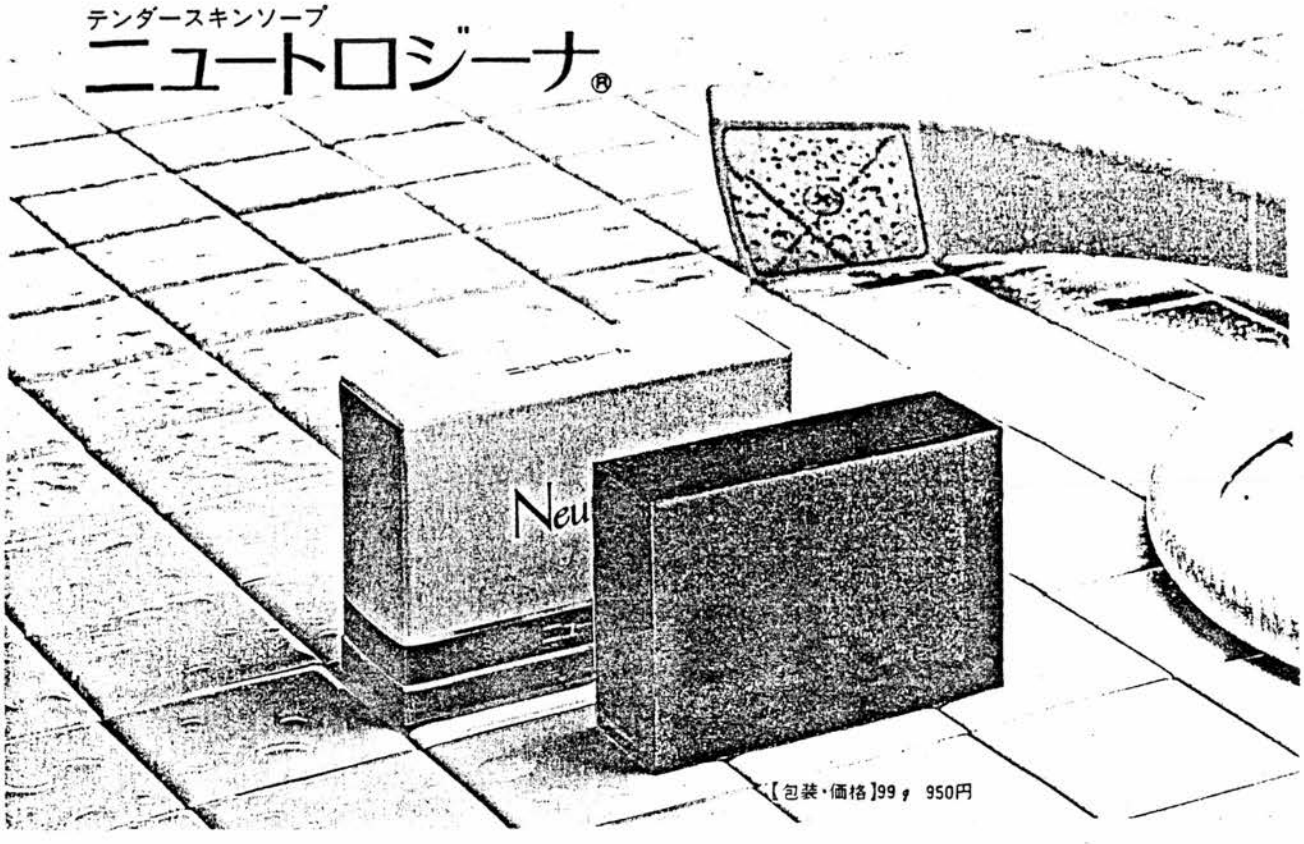
軽くすすぐだけで石鹸分が洗い流され、使用後の肌のpH回復がスムーズになりました。

無添加・無香料です。

天然成分を原料に作られた低刺激性石鹸です。

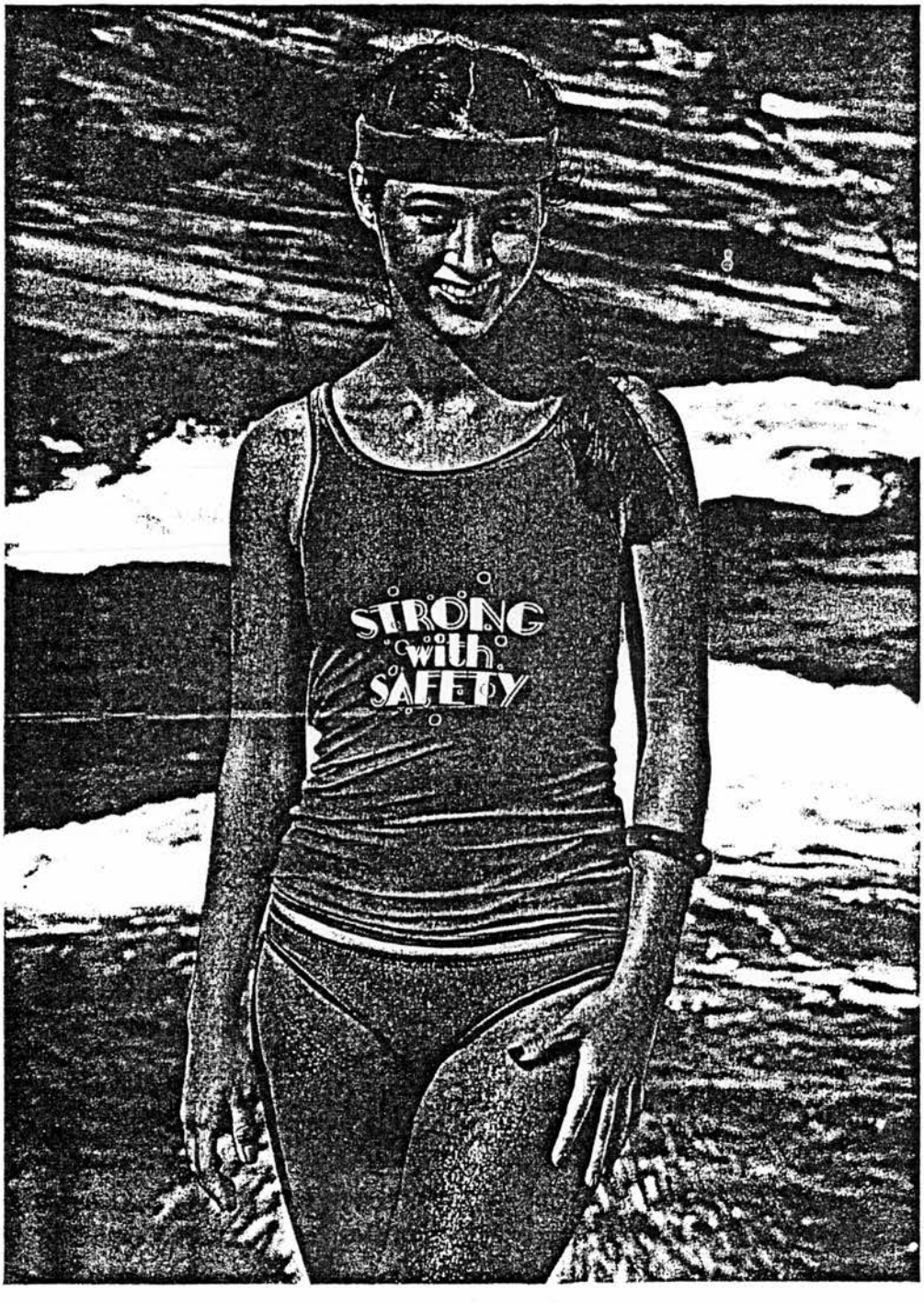
テンダースキンソープ

ニュートロジーナ®



STRONG with SAFETY

効能・効果 湿疹・皮膚炎群(手湿疹、進行性指掌角皮症、ビダール苔癬、日光皮膚炎を含む)/痒疹群/虫さされ/乾癬/掌蹠膿疱症/扁平苔癬/紅皮症/慢性円板状エリテマトーデス/円形脱毛症



劇 合成副腎皮質ホルモン外用剤

ビスダーム®

軟膏・クリーム

薬価基準収載　　アムシノニド 0.1%

- すぐれた臨床効果が湿疹・皮膚炎群、乾癬などに認められています。
- 経皮吸収による全身的影響は軽度です。
- 主成分が基剤中でほぼ完全に溶解している、均質性の高い製剤です。
- すぐれた局所抗炎症作用と皮膚貯留性をしめします。
- 新しい化学構造をもった副腎皮質ステロイドです。

製造 日本レダリー株式会社　販売 武田薬品工業株式会社

Line 3 offers the coinage デルモファーマシー 'dermo-pharmacy' a term potentially unfamiliar to the Japanese reader since a translation is immediately provided in the following brackets (皮膚薬学) 'hifuyakugaku'.

Likewise there is English borrowing in the figure - which tells the reader that pH skin acidity levels remain constant when Neutrogena is used. The pH measuring instrument is given in English ("Beckman Expandomatic") and the place of laboratory tests is also given in English ("Bio-Assay Laboratory, Dallas" etc.).

(iv) English loanwords seem to have positive connotations in these advertisements. The Neutrogena advertisement's 'key words' - describing the excellence of its soap - are in Katakana-ised English:

tendā sukin sōpu	(tender skin soap)	line 16
sumūzu	(smooth)	line 24
kontorōru	(control)	line 5
toraburu	(- skin - trouble)	line 20

(v) The use of English as an attention-getting device is evident in the example from Bisudamu - a topical steroid therapy - which shows an English slogan both on the advert masthead and repeated on the female model's T-shirt (see over page):

"Strong with Safety"

4.4.5.3 Conclusion

In the words of one sociolinguist, the objective of the advertisement is to "grab people's attention and to

get the name up front" (O'Barr 1979: 297). The use of English is part of this attention-grabbing in Japanese consumer advertising in general. Medical advertising seems to reflect the overall tendency in Japan to use English for commercial advertising in print, radio and television. Displayed on the counter of the chemist's shop on Hiroshima University campus there were several items with English names:

Lion, Everyday, Fresh (toothpaste)
Pine, Nice, Clean (soap)
Trojan, Rony Wrinkle, Love Skin, Ticklers (male contraceptives)
Peace, Cherry, Mild Seven, Seven Star (cigarettes)
Stop, Ban, 9 to 5, (anti body-odour sprays)
Diet Fiber C (oral slimming supplement)
Trimcise Creme (slimming body cream)
High C (vitamin supplement)
Busteron (oral supplement to increase bust size)
Luminous Beam (acne/blackhead remover - electrical)
Essential, Citrus, Gentle Touch (Hair shampoo)
Tough Man, Pocari Sweat (vitamin/electrolyte drinks)

The association of English loanwords in commercial advertising with modernity, the up-to-date, and positive images has been observed by Nadel and Fishman (1977). This is confirmed by the present study. The use of English loanwords to symbolise progressiveness and modernity also occurs in medical advertising. Product label, dosage form and key therapeutic phrases, in particular, employ English.

4.5. Reading and Writing in English

4.5.1 Introduction

The previous sections have tried to show the role of English as an intranational as well as international language of communication in medicine. It functions, as the data have shown, as a prime vehicle for the transmission of information or 'jōhō'.

The following section examines the individual language behaviour of the doctors sampled - with regard to reading and writing in English. The data describe the role of English in the context of their professional life.

4.5.2 The Relevance of English

In order to know the extent of doctors' reliance upon English, doctors were asked to rank replies from "not relevant" to "essential" regarding the importance or relevance of medical literature in English. The results show that the large majority of doctors regard such literature as very relevant to their work (see Fig.4.10).

FIGURE 4.10 Relevance of Articles, etc. in English to the Work of Japanese Doctors

1. ** 1.7% (2)
   disregard English

2. *** 2.5% (3)
   not relevant

3. ********** 10.8% (13)
   somewhat relevant

4. ********** 16.8% (20)
   important

5. ********** 63.8% (83)
   very important

(N=120)

This result is reinforced by responses to a specific question about the frequency of reading in English. Doctors were asked: "Do you ever read medical books/articles in English?" 96.7% replied "yes" and 3.3% replied "no". The population was then asked about the frequency of such reading in English. The results, shown in Figure 4.11, suggest that doctors frequently read medical literature in English.

FIGURE 4.11 Frequency of Reading in English (medical books/articles) among Japanese Doctors

1. ********** 10% (12)
   very rarely

2. ********** 21.7% (26)
   sometimes

3. ********** 40% (48)
   often

4. ********** 28.3% (34)
   very often

(N=120)

Figure 4.12 suggests that older doctors regard English language technical literature as even more important to their work than does the younger group of doctors. A possible explanation for this is the division of responsibilities in a Japanese medical institution between age groups. On the whole, older doctors can spend more time on research than younger doctors who are designated clinical chores in the hospital, lecturing positions, or the routine tasks of a project such as writing up reports and so on. The background and stimulus for research is provided by the experienced doctor who has consulted previous research - including publications in English.

FIGURE 4.12 Relevance of Articles/Reports Written in English to Doctors - according to Age

	20-40yrs	40yrs+
1. Do not read articles in English	2.0% (2)	0.0% (0)
2. Not relevant	3.0% (3)	0.0% (0)
3. Somewhat relevant	13.4% (13)	0.0% (0)
4. Important	17.4% (17)	13.0% (3)
5. Essential	63.9% (62)	86.9% (20)
Mean rank=	57.5	72.8
N=	97	32 (120 Total)

Z -2.3046 Probability 0.0212 (Mann-Whitney)

Despite the significant difference between the two age categories (probability=0.0212) both groups show a similar tendency to evaluate positively the relevance of English language medium literature to their work. These results indicate, again, the fact shown in the earlier data from Index Medicus that medical literature in English is no longer a 'foreign' importation in Japan. The major communication revolution that has taken place in Japanese medicine is that English now plays an instrumental role in medical communication.

4.5.3 Writing, Prestige, and the Medical Meeting

Conversations with informants indicated a further point about medical communication among Japanese doctors - related to the submission of papers, etc. to professional meetings and conferences. It was explained that: "It's useful to be seen speaking English and looking competent in a foreign language" (pharmacologist at Hiroshima University).

Doctors were asked the question: "Would you consider writing a paper for a meeting which conducts its proceedings in English?" Figure 4.13 shows that 64% compared to 35% of doctors would consider writing such a contribution.

Age is an important factor. There is a significant difference between age groups at the .5 level. The youngest doctors seem less willing or able to make the

FIGURE 4.15 Frequency of Writing (articles/reports etc.) in English by Japanese Doctors

1. ************************** 42.5% (51)
   not at all

2. ********** 17.5% (21)
   very rarely

3. ******** 10.8% (13)
   often

4. *** 3.3% (4)
   very often

(N=120)

Although no statistically significant comparisons emerged from the responses when analysed according to age, sex and work setting (i.e. medical schools or hospitals) a revealing difference arose among doctors in different disciplines. That is to say, more doctors in the field of basic medicine (i.e. anatomy, physiology, pharmacology, microbiology, etc.) were found to write medical articles, etc. in English than doctors in clinical medicine (i.e. internal medicine, dermatology, etc.) - see Figure 4.16.

FIGURE 4.16 Comparison between Japanese Doctors Writing in English in Basic versus Clinical Medicine

	Basic Medicine	Clinical Medicine
Do not write	25.8% (8)	51.7% (46)
Write	71.0% (22)	47.2% (42)

N=118 Missing=2 X^2= 6.46 with 2 d.f. Sig.= 0.039

commitment suggested in the question. However, the percentage willing to do so rises sharply from doctors in their thirties upwards (see Figure 4.14).

FIGURE 4.13 Percentage of Doctors Willing to Write in English for Presentation at a Medical Meeting

1. Would like to present
   ********** 62.4% (77)
2. Would not like to present
   ********** 34.8% (43)

(N=120)

FIGURE 4.14 Percentage of Doctors Willing to Write in English for Meetings - by Age

	20s	30s	40s	50+
1. Not willing	54.1% (20)	33.3% (20)	11.1% (2)	20.0% (1)
2. Willing	45.9% (17)	66.7% (40)	88.9% (16)	80.9% (4)
N=	37	60	18	5

X^2= 10.83 with 3 d.f. significance= 0.01

The sample was asked the frequency of writing in English. Of the total number, a small percentage claimed to write "very often" (3.3%) or "often" (10.8%) and roughly a quarter write "sometimes" (25.8%) - Figure 4.15.

4.5.4 Writing and Levels of Difficulty

I have pointed out that older doctors (i.e. 50yrs. upward), being in positions of power within medical departments possess greater facilities and opportunities for research publication than their younger colleagues. Older doctors tend to lead research projects, also. On the other hand, it is the older doctor who has had least exposure to formal English language training - either at secondary school or at medical college. Medical education in the immediate postwar period was still dominated by its links with Germany and the German language.

FIGURE 4.18 Writing Difficulty in English - according to Age of Doctor

	20s	30s	40s	50+
Unable to write	64.9% (24)	38.3% (23)	11.1% (2)	0.0% (0)
Very difficult	18.9% (4)	20.0% (17)	27.8% (8)	0.0% (0)
Difficult	10.8% (4)	28.3% (17)	44.8% (8)	60.0% (3)
Fairly easy	2.7% (1)	11.7% (7)	16.7% (3)	40.0% (2)
Easy	2.7% (1)	1.7% (1)	0.0% (0)	0.0% (0)
N=	37	60	18	0

Mean Rank: 20+30 group= 55.2 / 40+50 group= 82.7
Z= 3.5803 Probability= 0.0003 (Mann-Whitney)

An explanation for this disparity among the doctors may be linked to the matter of professional prestige. The further along the career structure a doctor moves the more important certain professional activities become, for example: membership of committees, publication of academic papers, and the presentation of papers at meetings and conferences. To present a paper is a desirable activity among the doctors sampled.

When crosstabulated according to work setting the data (shown in Figure 4.17) suggest that the delivery of papers in English at meetings is a desired activity of doctors in hospitals as well as in academic contexts.

FIGURE 4.17 Japanese Doctors' Willingness to Write in English for Meetings - according to Place of Work

	Private Facul. of Medicine	Public Facul. of Medicine	Private Clinic	Public Clinic
Not Willing	45.0% (9)	29.3% (21)	43.7% (7)	50.0% (5)
Willing	55.0 (11)	70.8 (51)	56.2% (9)	50.0% (5)

N=120 X^2= 3.43 with 3 d.f. Significance= 0.32

The data indicate, on the contrary, that older doctors tend to have less difficulty in writing English than their younger colleagues. A significant difference between the two age groups (20s+30s and 40s+50s) is shown in Figure 4.18.

These results contradict older doctors' often expressed opinions that they write with greater difficulty in English - compared to younger doctors - because they were "educated in German" and not in English.

4.5.5 Conclusion

From the results presented in this section on reading and writing in English, the majority of doctors sampled regard medical literature in English as either important or essential to their work. Older doctors and doctors in the field of basic medicine seem to find English language research more important to their work and write more in English than younger doctors and clinical medicine doctors.

The overall results indicate that both reading and writing in English are activities which form part of the professional life of Japanese doctors of whatever age, work setting or broad discipline.

4.5.6 Addendum: Reading Medical German

Reading in German by doctors is a relatively low priority, compared to English, and provides further evidence that German is not a major vehicle of medical communication in Japanese medicine. Figures 4.19 and 4.20 indicate that whilst Japanese doctors do, in fact, read information in German (Fig. 4.19) this activity is altogether infrequent compared to reading in English.

FIGURE 4.19 Percentage of Japanese Doctors who Read Medical Information in German

1. ********** 68.3% (82)
   Do not read in German
2. ********** 31.7% (38)
   Read in German

(N=120)

FIGURE 4.20 Frequency of Reading in German (medical books and articles) among Japanese Doctors

1. ********** 64.2% (77)
   Do not read German at all
2. ********** 25.2% (30)
   Very rarely
3. ********** 10.8% (13)
   Sometimes
4. 0% (0)
   Often
5. 0% (0)
   Very often

(N=120)

4.6 Medical Meetings in English

4.6.1 Introduction

Following on from the investigation of the writing of papers for medical meetings it is appropriate to look at the wider context of language behaviour and attitudes among Japanese doctors towards medical meetings (local, regional, or international conferences).

4.6.2 Investigation

(i) English as an Official Conference Language

For many practising medical doctors and academic researchers medical meetings are typical contexts where papers or presentations of whatever quality can be heard or read.

In order to obtain an approximate idea of official language policy in, at least, international medical gatherings I examined all international conferences listed in J.A.M.A. (Journal of the American Medical Association) over a 12 month period (1983/84). The results indicate the incidence and geographical distribution of the international conference:

U.S.A.	228
EUROPE	56
ASIA	18
AFRICA	18
CANADA	13
CENTRAL & SOUTH AMERICA	13
MIDDLE EAST	13
AUSTRALASIA	6

Out of a total of 373 meetings listed only one did not specify English as the official or one of the official languages (understandably, perhaps, this being the Federation of French-Speaking Gynaecologists and Obstetricians Conference held in Belgium).

(ii) Medical Meetings in Japan

Doctors were asked: "Have you attended a medical meeting in which English was used?" This question relates to English medium presentations by either Japanese or overseas speakers. 55.8% of the respondants answered that they had attended such a meeting (i.e. one in which English is used). 42% had never attended such meetings (see Appendix 4.5).

As to whether attendance at meetings (English medium all or part) might be dependent upon whether the participant is from the public or private sector in medicine there does not appear to be an important difference at the .5 level (Appendix 4.6). Neither is there significant difference between doctors from basic and clinical disciplines (Appendix 4.7).

As might be expected, attendance at English language conferences is more common among older doctors than younger doctors. Only 21.6% of doctors in their 20s have attended such a meeting. This figure rises to 80% for doctors over fifty years old - a difference of statistical significance as Figure 4.21 below indicates.

FIGURE 4.21 Doctors' Attendance at Medical Meetings in English - according to Age

	20s	30s	40s	50+
1. Have not attended	78.4% (29)	30.0% (18)	16.7% (3)	20.0% (1)
2. Have attended	21.6% (8)	66.7% (40)	83.3% (15)	80.0% (4)

(N=118 Missing=2) X^2= 30.81 with 6 d.f.
Significance= 0.00

A more surprising result, on the other hand, is the apparent inhibition among doctors questioned regarding attendance at conferences in English. The question asked was: "Would it put you off attending a lecture or discussion if it were conducted in English?" Figure 4.22 shows that 74.2% of doctors (compared to 25.8%) express reluctance to attend such a meeting.

FIGURE 4.22 Doctors' Willingness to Attend Medical Meetings in English

1. ********** 25.8% (31)
   Willing
2. ********** 74.2 (89)
   Not willing

(N=120)

It appears, also, that what might be an important factor, namely length of professional experience - shown here by 'Age' - does not affect these attitudes, as indicated in Figure 4.23.

FIGURE 4.23 Doctors' Willingness to Attend Medical Meetings in English - according to Age

	20s	30s	40s	50+
1. Willing	29.7% (11)	23.3% (14)	27.8% (5)	20.0% (1)
2. Not willing	70.3% (26)	76.3% (46)	72.2% (13)	80.0% (4)

(N=120) X^2= 0.61 with 3 d.f. Significance= 0.89

Figure 4.23 shows that doctors of any length of professional experience express considerable reluctance or hesitation regarding participation in lectures and discussions in English at conferences.

A different pattern emerges, however, when considering these data from the point of view of private versus public sector medicine. The trend among national university doctors (public) as shown in Figure 4.24 is unmistakable. Doctors in the traditionally more prestigious national institutions seem more worried about participating in English medium lectures and discussions than private sector doctors (universities and clinics) or even public clinic doctors.

FIGURE 4.24 Doctors' Willingness to Attend Medical Meetings in English - according to Place of Work

	Private Facul. of Medicine	Public Facul. of Medicine	Private Clinic	Public Clinic
1. Willing	15.3% (10)	50.0% (11)	32.5% (5)	40.0% (4)
2. Not willing	84.7% (10)	50.0% (61)	68.7% (11)	60.0 (6)

(N=118 Missing=2) X^2= 11.68 with 3 d.f.
Significance= 0.008

4.6.3 Conclusion

Although a slight majority of doctors questioned, mainly in the older age group, have attended meetings in English about two-thirds of all doctors expressed reluctance to attend meetings if they were conducted in English. This fact may reflect a lack of confidence in English fluency skills for the purpose of conference participation.

A convenient explanation for the discrepancies among public and private university doctors may lie in the behavioural phenomenon (of considerable importance in Japanese society) of 'saving' and 'losing face' ('kao ga tatsu'= to save face: lit. 'the face stands up'). The pressure upon doctors and other medical personnel from national institutions to perform competently in public

- and this includes performance in a foreign language - is very great indeed. Upon such performance among professional peers depends the future of the individual in an increasingly competitive professional sphere.

I wish to argue that the expectations surrounding public sector doctors when placed in the professional 'arena' of the medical conference may be sufficiently intense to make this group of doctors feel psychologically vulnerable and insecure. This is particularly acute when Japanese doctors are confronted with English-speaking colleagues from overseas and are obliged to join in spontaneous discussion during lectures and panel sessions.

The question might be asked whether the inherently 'superior' professional competence of the public sector individual - a view firmly held by the majority of Japanese - ensures more rather than less confidence when participating in professional situations in English? The problem here, as the social anthropologist Nakane has pointed out, is that there simply may not exist such a qualitative difference among medical professionals in Japan:

> "The general tendency in Japan is to accord prestige to status rather than to real merit. This encourages a man whatever his capabilities to wish to reach the top" (Nakane 1970: 72).

In other words, there may be no sound basis for supposing that linguistic competence in English or levels of expertise might be qualitatively different between public and private university doctors. However, such expectations do exist and as the data seem to indicate create a psychologically inhibiting effect among public university doctors.

CHAPTER FIVE

ENGLISH IN MEDICAL EDUCATION IN JAPAN

CHAPTER FIVE

English in Medical Education in Japan

5.1 The Official Medium of Instruction

Japanese is the official medium of instruction in medical education in Japan. The most authoritative policy statement of this is given in the W.H.O. (World Health Organisation) listing of medical schools containing data supplied by the ministries of education of individual countries (W.H.O. Directory of Medical Schools: 1970-77).

The spread of English is evident in some medical education systems when studied longitudinally (W.H.O. directories, 1953-77). English has supplanted Arabic in Egyptian medical education, and replaced Turkish, French and German in Afganhistan (no data available since the 1978 military occupation by the Soviet Union). English has come to co-exist with Burmese in Burma, and with Persian in Iran. In some countries, such as Sri Lanka, vernacular languages have arisen (Sinhalese and Tamil) along with existing English instruction in the nations' medical schools. Colonial languages have declined in some systems: French and Portuguese in India, Dutch and even English in Indonesia. Significantly, the Korean entry to the W.H.O. listing adds the footnote: "English is used in medical textbooks".

The offical declaration from Japan reflects the

commonly held view that, quite simply, a Japanese doctor is trained in Japanese. Policy statements of many other countries reflect similar uncomplicated linguistic views. The suggestion implied, therefore, by official statements about language policy in medical training in Japan is that Japanese is the sole medium of instruction. This contention is challenged in the following sections.

5.2 Book Resources in English at Medical Institutions in Japan

5.2.1 Introduction

In their survey of "English as a world language", Conrad and Fishman (1977: 41ff) show the increasing use of English in book production and in "institutions using English" especially libraries and museums. Although it is conceded that such investigation does not "tell us much about the place of English" in a particular country:

> "the figures and their comparison with French do tell us that there is a substantial market for English books and that English continues to be the most viable medium through which ideas may be presented to a worldwide audience" (Conrad and Fishman 1977: 56).

In this section is described an investigation of library resources in English and other foreign languages at Shimane Medical University and other medical institutions. The purpose is to find out the extent of publications held in English.

5.2.2 Analysis and Results

It should be noted, as a preliminary, that the medical book collection at Shimane Medical University is widely regarded in the Chugoku region (i.e. south-west Japan) as possessing an 'up-to-date' collection of books and journals. The library was instituted in 1975 and is open to staff and students. All books and journals are regularly selected for inclusion in the 'library committees' formed by representatives from each of the thirty-one departments. Since each department also has its own library the selection of books, etc. for the central library is made with the needs of students strongly in mind.

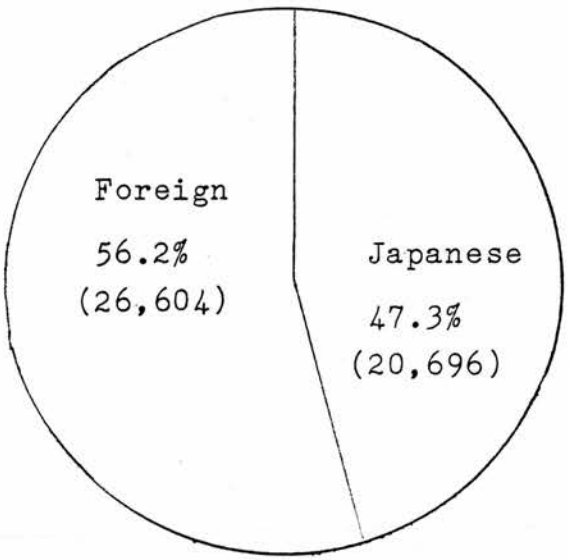
Figures 5.1 and 5.2 show data taken from a study of card catalogue classifications (by language of publication) at Shimane Medical University. Data shown in Figures 5.3 and 5.4 derive from the statistical records published in Nihon Igaku Toshokan Kyōkai (The Japan Medical Library Association) 1983 yearbook.

Figure 5.1 show the proportion of foreign language books and journals compared with those in Japanese. The total number of foreign books (26,605) is 9% higher than the number of Japanese language books (20,696). The ratio becomes higher (by 30%) when comparing foreign language journals (65.4% of total) with Japanese journals (34.5%).

Figure 5.2 breaks down the classification 'foreign language' literature into the various languages involved.

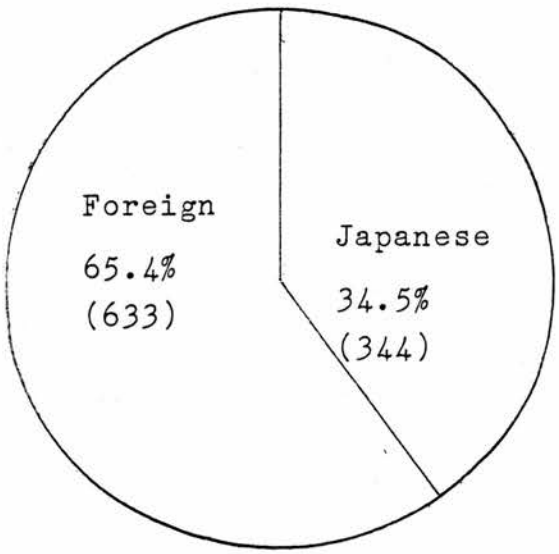
FIGURE 5.1 Proportion of Foreign Language and Japanese Language Books and Journals in Shimane Medical University (1983/4)

Books



Total number of books: 47,300

Journals

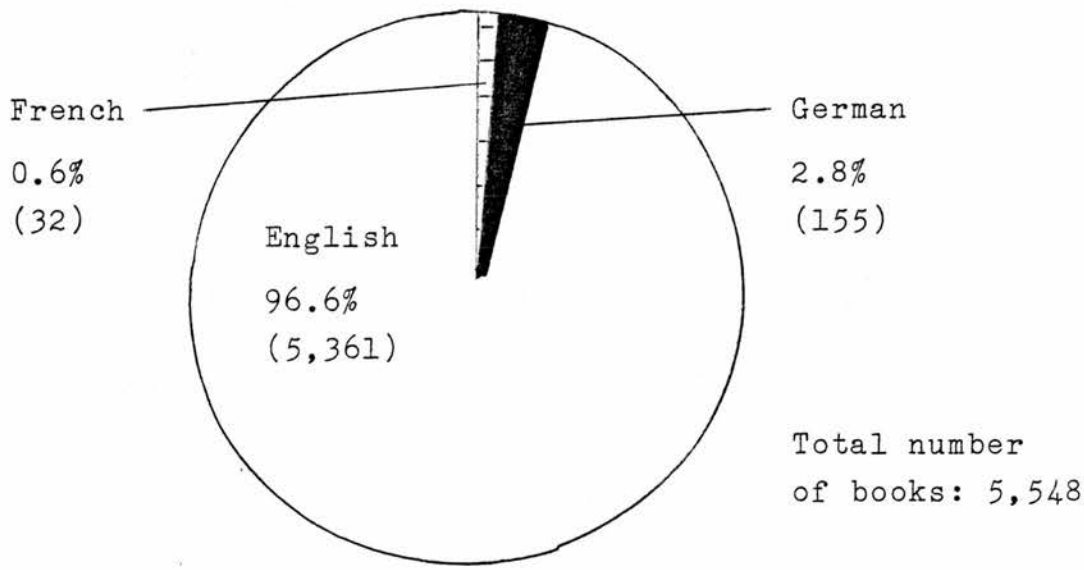


Total number of journals: 967

English language publications comprise the largest portion of the total at 96.6% (5,361) followed by German at 2.8% (155) and French 0.6% (32).

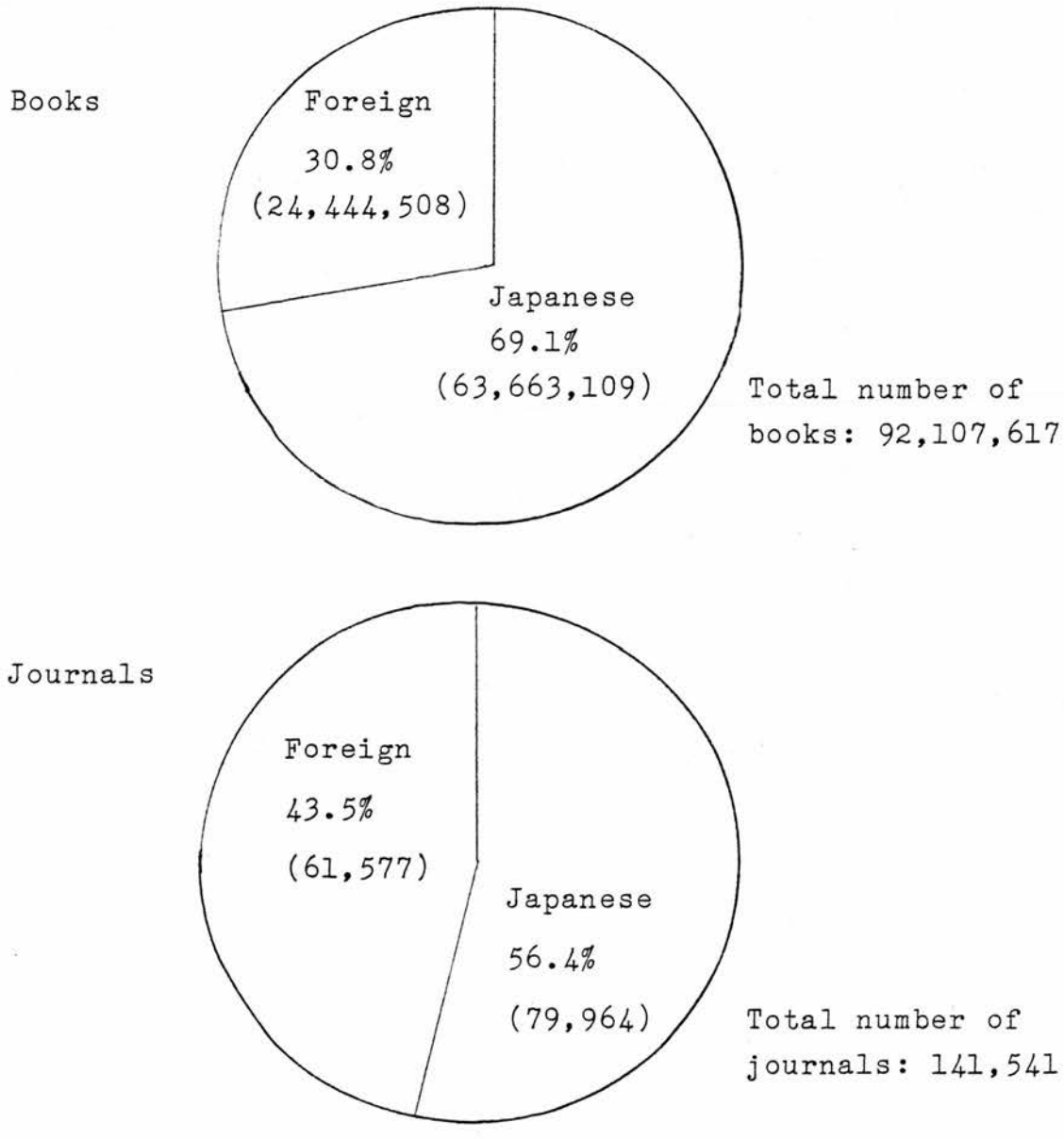
Although similar subclassifications of languages are not available for other institutions my own observations of publication collections at medical schools in Hiroshima and Kyoto confirm the preponderance of English language over German and French publications. With this in mind, then, we can examine national gross figures for publications in 'Japanese' and 'foreign languages.

FIGURE 5.2 Distribution of Foreign Languages among Medical Books in Shimane Medical University (1983/84)



In Figure 5.3 data from 99 medical institutions in Japan are shown, indicating a smaller percentage of the total for foreign language books (30.8%) than books in Japanese (69.1%). The foreign language proportion rises, however, by 13% in the case of journals.

FIGURE 5.3 Proportion of Foreign Language and Japanese Language Books and Journals in 99 Medical Institutions in Japan (1983/84)



In the smaller publication collections of departments within 54 institutions (figures are not available for the remaining 46) we can see in Figure 5.4 that the extent of

foreign language publications (books) is 44% and rises once again (parallel to the rise in foreign language proportions shown in Figures 5.1 and 5.2) to 61% of the total.

FIGURE 5.4 Proportion of Foreign Language and Japanese Language Books and Journals in 54 Medical Institutions in Japan - departmental collections (1984/84)

5.2.3 Conclusion

Four observations can be made about the results presented above.

(1) In general, schools of medicine and other institutions rely heavily on technical literature in English.

(2) Clinical and research departments, more than central libraries, require technical literature in English rather than in Japanese.

The reasons for this may be explained as follows. In the departments and laboratories of medical institutions staffed by graduate students, lecturers and individuals at that professional level, specialised research is carried out and, in consequence, a larger proportion of specialist books and journals are required.

(3) English outstrips German as the language of medical books and French constitutes a negligible part of book publications.

(4) The overall proportion of English language journals both in general as well as departmental libraries is consistently high - by comparison to the proportion of books in English.

Casual observation of Japanese library users suggests further that, at least in the central libraries, undergraduates were most frequently studying textbooks in Japanese whilst staff were reading and borrowing English language publications - mainly journals.

It becomes clear at this point that specialist departments (e.g. paediatrics, immunology, etc.) seek to gain access to the wider international information network and "invisible college" of fellow experts (de Solla Price: ibid) by means of their intake of English language periodicals from around the world.

At the beginning of this section I quoted Conrad and Fishman (ibid) who attempted to show the worldwide market for English language books. The present observation of Japanese library holdings in the domain of the medical sciences seems to support the claim made by the authors that:

> "English continues to be the most viable medium through which ideas may be presented to a worldwide audience" (Conrad and Fishman, ibid: 56).

(I would wish to add, in this quotation, that English is the most viable medium of 'medical' ideas in the sense intended by Conrad and Fishman).

5.3 Medical Textbooks and Reading in English

5.3.1. Introduction

Textbooks play a traditionally important part in - particularly undergraduate - medical education. The first important point to be noted here is that Japanese students in medical schools tend not to 'hand on' used textbooks (with the usual glosses in Japanese and English) to students of following years. The reason for this lies partly in the cultural proclivity in Japanese society towards "atarashii mono" (new things) and the strong distaste for second-hand goods but more importantly because of the nature of medical information itself.

Scientific and technical developments in medicine and related disciplines advance rapidly. An illustration of this is the regular updating of works (found in the student reading lists in Shimane Medical University) such as: Harrison' Principles of Internal Medicine (Issellbacker, et al.) now in its 9th edition (1980) or Apley's System of Orthopaedics and Fractures (5th edition 1977). From investigation of the medical school book lists in this study we can observe the continual revision of textbooks - noticeably in the fields of pharmacology and clinical biochemistry. Biopharmacological research (including the emergence of new fields such as neuropharmacology) has been aided by support from domestic (viz. Chugai, Eisai, Kaigen, Kyotomi, Mochida, etc.) as well as by several multinational companies.

5.3.2 Medical Textbooks

It is significant that recommended textbooks for 3rd year students at Shimane Medical University attending the course in pharmacology include no works before 1977. What is the relevance of this for the role of English in medical education? In this field, at least, the most recent textbooks recommended are English language publications: e.g. Goodman and Gilman's A Pharmacological Basis of Therapeutics (6th edition, 1980), Goth's Medical Pharmacology - Principles and Concepts (10th edition, 1981).

There seems to be a tendency to rely on textbooks in English to provide 'state-of-the-art' information in conjunction with other modern, but marginally less up to date, Japanese textbooks. The latest textbook recommended for the course by the Department of Pharmacology (Shimane Medical University) is an English language work - written in the English original by a Japanese medical clinician and published first in Japan: Masachi Sasa' Textbook of Clinical Pharmacology (1981).

Table 5.1 compares the number of Japanese medical textbooks which comprise the official book lists for 2nd-6th year students at Shimane Medical University with all the English language textbooks in the same lists. These are a compilation of the recommended book titles published by individual departments of the university (see Appendix 5.1 for display of medical departments in

TABLE 5.1 Comparison between English and Japanese Language Textbooks for Students in Shimane Medical University according to Year and Subject of Study

YEAR	SUBJECT	ENGLISH		JAPANESE		TOTAL
		82/83	83/84	82/83	83/84	
2	Physical Anthropology	3	3	-	1	7
2	Anatomy[1]	3	1	3	2	11*
2	Neuroanatomy[1]	2	4	1	3	10
2	Physiology[1]	5	5	5	5	10
2	Biochemistry	17	16	8	10	51
3	Anatomy[2]	3	3	4	1	15*
3	Histology	2	3	2	1	8
3	Neuroanatomy[2]	1	3	1	2	7
3	Embryology & Genetics	2	2	1	2	7
3	Physiology & Biophysics	5	6	5	6	22
3	Biochemistry	17	-	8	-	25
3	Pharmacology[1]	4	4	7	8	23
3	Pathology[1]	7	7	10	12	36
3	Microbiology & Bacteriology	5	14	13	24	56
3	Immunology	4	5	3	3	15
3	Parasitology[1]	6	6	4	4	22*
3	Community Health	5	5	7	7	34
3	Radiology	6	6	12	17	46*
4	Clinical Pharmacol.	4	4	7	7	22
4	Pathology[2]	7	7	9	9	33
4	Virology & Bacteriology	4	-	8	9	31
4	Parasitology[2]	6	6	4	4	22*
4	Community Health	5	5	7	7	24
4	Legal & Forensic Medicine	7	7	8	8	32*
4	Internal Medicine	3	3	5	5	16
4	Dermatology	4	4	13	14	35
4	Paediatrics	11	20	3	2	36
4	Surgery	2	2	7	6	17
4	Orthopaedics	5	5	6	2	18
4	Neurosurgery	3	3	12	13	31

YEAR	SUBJECT	ENGLISH		JAPANESE		
		82/83	83/84	82/83	83/84	TOTAL
4	Urology	7	6	2	2	20*
4	Clinical Psychiatry	1	1	9	14	27*
4	Obstetrics & Gynaecology	6	6	12	12	36
4	Radiology & Radiotherapy	9	1	13	15	38
4	Anaesthesia	12	12	10	10	42
5	General Medicine	5	5	14	14	38
5	Paediatrics[2]	10	10	4	4	28
5	Surgery[2]	2	2	18	18	40
5	Orthopaedics	5	5	3	3	16
5	Neurological Surgery	3	3	-	-	6
5	Clinical Psychiatry	1	1	10	10	14*
5	Obstetrics & Gynaecology[2]	-	-	12	12	24
5	Otorhinolaryngology	-	-	6	6	12
5	Clinical Haematology	3	3	5	5	16
5	Dermatology[2]	4	4	13	14	35
5	Paediatrics[3]	21	20	6	5	53
5	Surgery[3]	2	2	18	18	40
5	Orthopaedics[2]	5	5	6	2	18
5	Neurological Surgery[2]	1	2	5	3	11
5	Urology[2]	7	6	1	2	20*
5	Clinical Psychiatry[3]	1	1	8	14	26*
5	Obstetrics & Gynaecology[3]	6	6	12	12	36
5	Opthalmology	-	3	5	10	18
5	Radiotherapy[2]	9	1	11	18	39
5	Anaesthesia	12	12	11	11	46
5	Oral Surgery	2	2	4	4	12
5	Rehabilitation Medicine	2	2	2	2	8
5	Legal Medicine[2]	2	2	6	8	18
6	Paediatric Diagnosis	1	2	2	2	7
6	Surgical Diagnosis	-	-	5	5	10
6	Clinical Psychiatry	1	1	9	9	22*
6	Otorhinolaryngology	-	-	5	5	10
		English		Japanese		All
	TOTAL	598		873		1,471
	% of TOTAL	40.6		59.3		99.9

Notes:

1. Symbol * indicates German language textbooks included in total
2. Some Japanese textbooks are translated editions of English language publications.

which students must study). Books are selected by the teaching staff of these departments. (Two explanatory points must be made. Firstly, one medical discipline may span two or three courses of lectures usually in consecutive years - these subjects are marked in Table 5.1 by raised numerals. Secondly, one subject may be taught by two or more autonomous departments with their own teaching staff and course textbooks. Appendix 5.1, for example, shows that 'Surgery' is divided into two departments and 'Internal Medicine' into four).

The language preference of teaching staff is expressed indirectly by means of the selection of set books for each subject. Individual teachers in charge of textbook selection make English a feature of medical training. This contrasts with data which I alluded to earlier in this chapter (section 5.1) in which Japanese schools of medicine (W.H.O. Directory.. etc.) cite their "Language of Instruction" as "Japanese" with no mention of the role of English or any other foreign language. The data shown here demonstrate that in the realm of recommended reading for all courses during this period of medical education, English language textbooks comprise 40.6% of the total number of textbooks. (German, the only other language of instruction employed involved 0.1% of medical textbooks).

Some subjects are noticeably weighted towards Japanese publications rather than towards English language

The data in Figure 5.5 seem to suggest, firstly, that reading requirements in this Japanese medical school become more concentrated around the 4th or 5th year of study. Secondly, that 'peaking' is reflected in the numbers of both Japanese and English textbooks (182 English, 283 Japanese - 4th year; 230 English, 345 Japanese - 5th year). It could be pointed out also that English language training (including reading skills preparation) occurs at the furthest point in time (during medical school) from the period when reading in English appears to be most intensive.

5.3.3 Students' Reading Habits

Of relevance to the preceeding analysis is whether Japanese medical students read the textbooks listed above. Of the students sampled it emerges that 72% do read or refer to English language textbooks (Appendix 5.2).

When this is analysed in terms of how often the activity occurs a more complicated picture emerges - shown in Figure 5.6. Reading in English does not seem to play a major part in overall course-book reading.

The data show that one quarter of the students do not read medical literature in English at all and that almost one half read medical literature only rarely. Among those answering in the affirmative to the question "Do you ever read medical books in English?" a rough pattern emerges. Figure 5.7 shows that students refer to medical

works: textbooks in Obstetrics and Gynaecology, Otorhinolaryngology and Clinical Psychiatry, for instance. Others, on the other hand, such as Biochemistry and Paediatrics textbooks tend to be in English rather than in Japanese. (Although it is difficult to know the precise reasons behind each separate department's list, it can be assumed that selection is based on generally accepted criteria such as: quality of content, appropriateness to the topic of the lectures and to the level of the students).

If we examine the role of English language textbooks from the point of view of the time or period in a student's education when such books seem to become relevant to their studies an interesting pattern emerges (Figure 5.5).

FIGURE 5.5 Comparison of Medical Course Textbooks by Language (English and Japanese) from 2nd to 3rd Year of Study at Shimane Medical University

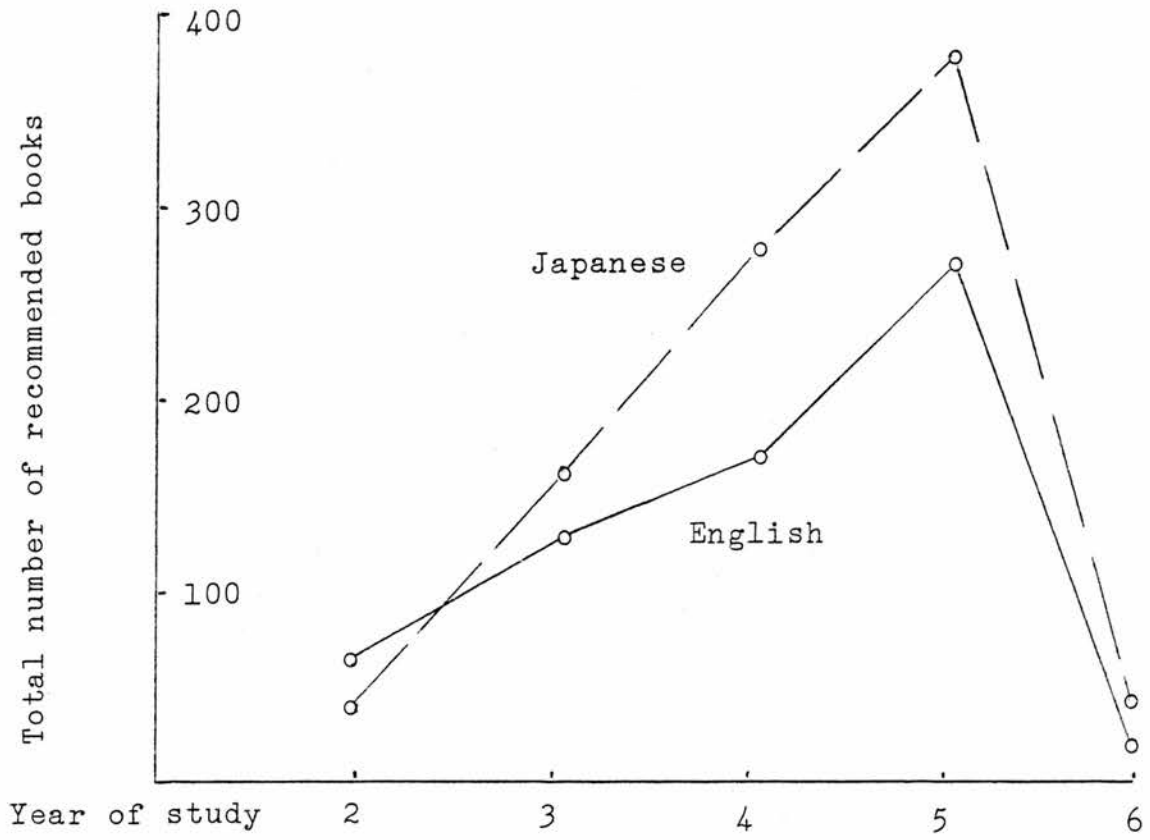


FIGURE 5.6 Frequency of Reading English Language Textbooks Among Japanese Medical Students

1. ********** 26.7% (79)
   Do not read at all

2. ********** 48.0% (142)
   Seldom read

3. ********** 19.9% (59)
   Sometimes read

4. **** 4.4% (13)
   Often read

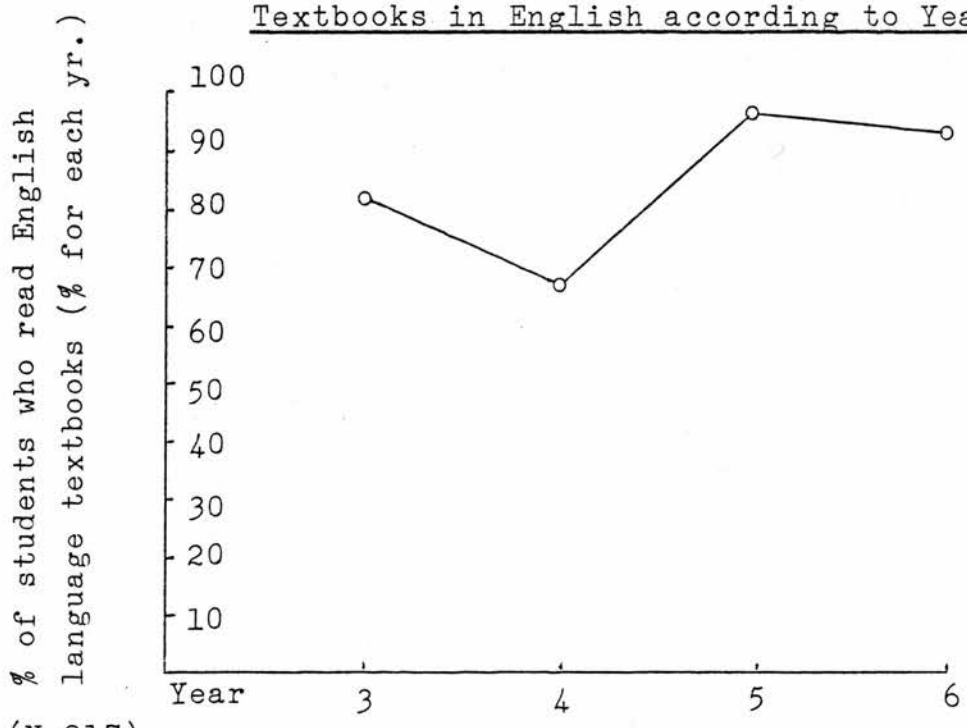
5. ** 1.0% (3)
   Very often read

(N=296)

---

textbooks progressively more often in their later years of study (5th and 6th years) than in the earlier years (3rd and 4th years).

FIGURE 5.7 Percentage of Students Who Read Medical Textbooks in English according to Year of Study



(N=217)

textbooks progressively more often in their later years of study (5th/6th) than in the earlier years (3rd/4th).

These data reflect the situation in the medical schools investigated whereby students progressively encounter technical works in English

Figure 5.8 shows a strong tendency among students of all years to value English textbooks as being relevant to medical studies.(Note lack of statistical significance between group 1 - yrs. 3+4 and group 2 - yrs. 4+5).

FIGURE 5.8 Relevance of Books in English to Students' Medical Studies - according to Year of Study

	Year of Study			
	3	4	5	6
Not relevant	6.1% (1)	4.6% (9)	8.8% (3)	0.0% (0)
Somewhat relevant	53.3% (35)	51.9% (96)	64.7% (22)	80.0% (8)
Important	24.2% (16)	21.6% (40)	20.6% (40)	10.0% (1)
Essential	16.7% (11)	11.9% (22)	5.9% (2)	10.0% (1)

Total N=295 Missing=1 Mean Rank: group 1 (3+4)=163.4 group 2 (5+6)= 143.5.
Z= -1.8395 probability= 0.0658 (Mann Whitney U)

5.4 English in Medical Lectures

5.4.1 Introduction

In order understand and evaluate the roles of English and Japanese in medical lectures in a Japanese university, several lecture sessions given by the Departments of Paediatrics and Anatomy were observed. Questionnaire items also sought to determine the relative importance attached by students to the need for a knowledge of English for lecture comprehension.

Paediatrics lectures were given by the senior Professor of Paediatrics to 100 fifth year students in the main auditorium of Shimane Medical University. The subject involved the lecturer's own specialisation - paediatric cardiology - on which he had published several academic papers and a textbook for students. The anatomy lectures were delivered by two professors of anatomy to second and third year students and involved a wider range of topics than in the paediatrics lectures: physical anatomy and histology. Ten hours of paediatrics lectures and five hours of anatomy lectures were attended.

5.4.2 Lecture Observation

Several points were noted during the investigation of the medical lectures. These points raise issues involving both the role of English in medical education as well as the more applied linguistic concerns of appropriate language skills preparation. Both of these

issues are discussed.

The first point noted is the complete absence of verbal interaction between lecturers and students during the course of lectures.

There were no questions or comments from students in any of the 100-minute lectures. Questions or comments were not invited, explicitly or by means of implicit rhetorical devices, such as pauses, incomplete statements, etc. Only one student who was operating the slide projector was addressed individually.

Four important aspects of the use of English were noted:

(i) The lecturer continually provided bilingual definitions of medical terminology throughout the classes. When a new concept was introduced, if the term used to describe it was in Japanese then this would be quickly followed by the English equivalent. For example:

(Paediatrician): "ēto, tsugi wa, bii shii jii to yuu no wa 'bekutokājiogurafii'..... Nihongo de wa 'shinzōdenkiza' desu ne."

(Okay, the next thing is V.C.G. that is to say, 'vectocardiography'. In Japanese, this is 'shinzōdenkiza' isn't it.)

(ii) There was a great deal of verbal code-switching by lecturers. The phenomenon is accompanied by a strongly Japanese pronunciation of English. Examples of verbal

switching in the anatomy lecture are the following:

(Anatomist): "Kyo no tēma wa shiriari bodē desu ne. Soshite, Woruton no zerii no koto ni tsuite hanashi shimasu".

(So, today's theme is ciliary body and I'll say a few words also about 'Wharton jelly'.)

(Paediatrician): "Hijōni shibiā na konjestibu hāto fēriā"

(Very severe conjestive heart failure)

(Note the use of the particle "na" in this sentence to transform the modifying expression severe into a Japanese adjective.)

(iii) The frequent use of hand-outs containing relevant information and distributed during the lectures by the instructors was noticeable. These hand-outs played an important part both in the organisation of topics presented as well as in the provision of English or Japanese glosses for technical expressions used during lectures. An example of the widespread practice of following Japanese medical description by an immediate English equivalent is this extract from a paediatric cardiology lecture (extract from 14-page accompanying materials prepared by the lecturer):

(6) 心エコー図 (echocardiography : ECHO)

左室拡張末期径 (left ventricular end-diastolic dimension : LVDd)

左房径 (left atrial dimension : LAD)

大動脈径 (aortic dimension : AOD)

右室拡張末期径 (right ventricular end-diastolic dimension : RVDd)

右室前壁 (right ventricular anterior wall : RVAW)

大動脈前壁 (aortic anterior wall : AOAW)

肺動脈弁のa波 (a-wave of pulmonary valve)

心室中隔の奇異性運動 (paradoxical septal motion)

(7) 心カテーテル検査 (cardiac catheterization)

心血管造影法 (angiocardiography)

血行動態 (hemodynamics)

肺動脈圧 (pulmonary pressure : P_p)

体動脈圧 (systemic pressure : P_s)

肺動脈圧／体動脈圧 (P_p/P_s)

左右短絡 (L to R shunt)

右左短絡 (R to L shunt)

肺血流量 (pulmonary flow : Q_p)

体血流量 (systemic flow : Q_s)

肺血流量／体血流量 (Q_p/Q_s)

(8) 動脈血 PH, PCO_2, PO_2

代謝性酸血症 (metabolic acidosis)

呼吸性酸血症 (respiratory acidosis)

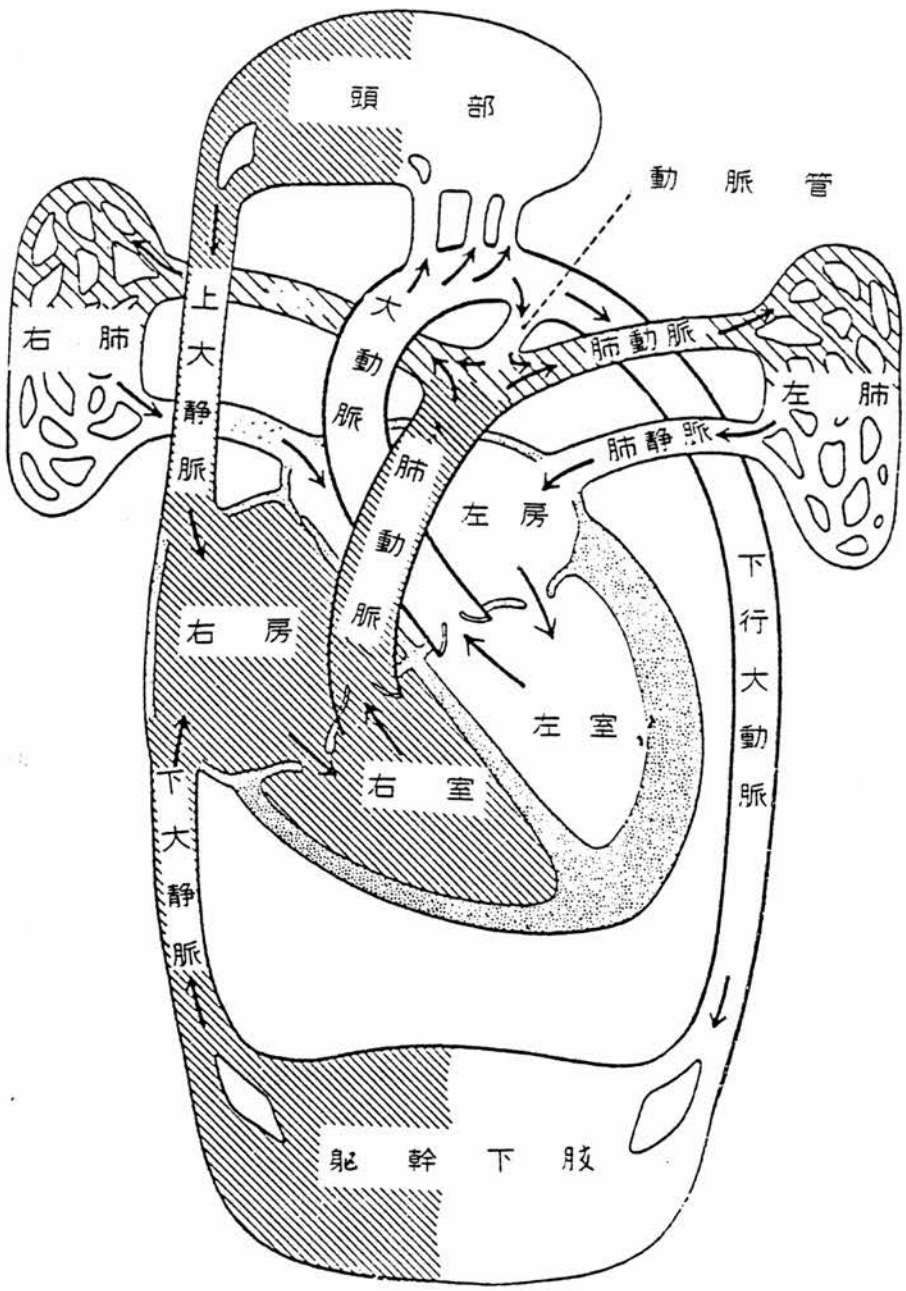
(9) アイソトープによる検査

心放射図 (radiocardiogram : RCG)

Two points about lecture hand-outs must be made. Firstly, the lecturer did not follow the order of presentation of items in his own material - i.e. the Japanese medical term first then the English equivalent. On most occasions, the lecturer spoke the term(s) in English and sometimes failed to give the Japanese

equivalent term. Secondly, the tendency of lecture materials favoured English. The remaining pages (3-14) of the above-mentioned hand-out appear in English only - except for detailed diagrams - showing the dynamics of blood-flow and cardiac action in various congenital heart diseases. The extract below shows atrial septal defect (ASD) of the ostium secundum type diagramized in Japanese rather than in English:

動　脈　管　開　存　症



Although it is not possible to make widespread generalisations about language preference by Japanese lecturers there is a discernable tendency to present disease-related terminology and the terminology of instrumentation in English. Examples are: "hemodynamics", "auscultation", "ECG", "VCG". On the other hand, there is a tendency to label medical illustrations and diagrams in Japanese. This reverses usual practice in academic medical writing (e.g. see English figures and tables in the paper by Yamamoto - section 4.4.4).

(iv) In the lecture hand-outs, lecturers tend to label illustrations in Japanese, not English. The following extract from a 3rd year examination in histology is an example:

Examination of Histology (I)

10 Dec.

1. Describe 1) the components of the ground substances and 2) the fibrogenesis, in the loose connective tissue.

2. Based on the diagram, explain the development of the long bone.

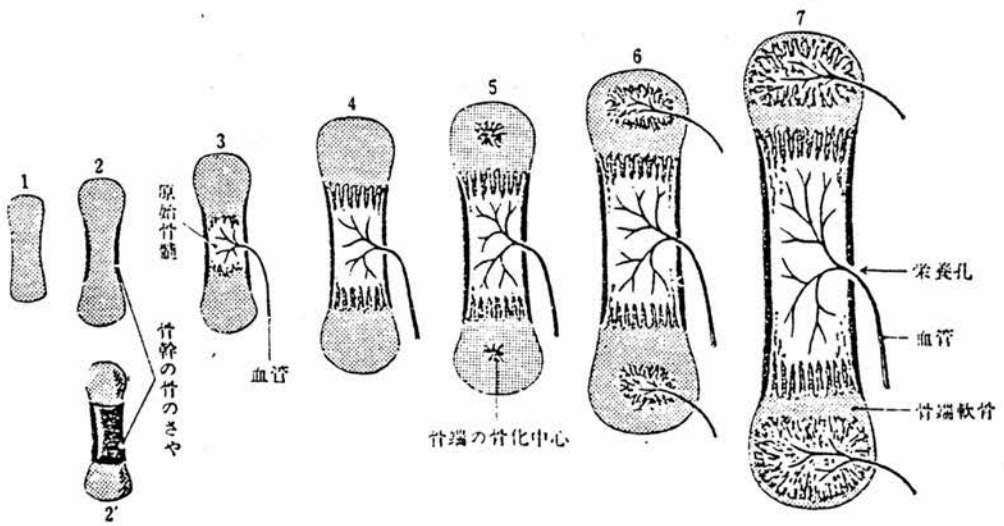


図 III-79 長骨の発生様式を示す模型図

5.4.3 Academic Examinations

Academic examinations are held regularly throughout the term. In the observation of class examinations two points emerged. Firstly, lecturers in the two subjects (paediatrics and anatomy) tend to set questions in Japanese. This fits in with the fact that the important medical licensing examination at the end of Japanese medical school is in the vernacular (no direct borrowing). The second fact is that some lecturers, do, in fact, set questions in English during class examinations. An example of this phenomenon is the above extract (section 5.4.2 iv) from a histology examination given in the 3rd year.

The significance of this apparent contradiction needs to be explained. The fact that the 'kokka shiken' (national examination for medical students) is set in Japanese is frequently pointed out by students - as well as by some English teachers in medical schools - as final proof that a medical English oriented curriculum is fundamentally irrelevant. When all is said and done, it is claimed, your ability to qualify as a doctor in Japan is determined solely, from a linguistic point of view, on your knowledge of Japanese and not English. English teaching, many language teachers will argue, should concern itself with matters other than 'medical English' - for example, literary or ethical topics.

The present evidence appears to contradict this view. If the prior academic hurdles (i.e. prior to the 'kokka shiken') do make use of English, as demonstrated

here, then a knowledge of English in a medical context is necessary for Japanese medical students. However rare the occurence of a medical/academic examination in English, so long as the possibility exists, as the histology examination shows, it implies the need for language preparation.

5.4.4 Note-Taking in Lectures

A further observation concerns note-taking by students. Note-taking is done solely in Japanese. There was no trace of English notes or abbreviations from English in the several note-books I looked at.

Where abbreviations of English medical expressions were mentioned by the lecturer (e.g. "PCG" for photo-cardiography, "BVH" for bi-ventricular hypertrophy, or "PA" for pulmonary artery) students noted down the Japanese equivalent.

In cases where a Japanese term and an English term were presented together, the Japanese term was preferred in note-taking in all cases.

The phenomenon observed here seems to be that note-taking in lectures is a Japanese language activity. Neither is there any dual language note-taking. Even when technical information is presented bilingually or in English only, students note-take in Japanese.

In order to find out whether students write their homework in English between lectures the question was asked how often they need to write reports in English.

If students are, in fact, required by lecturers to write reports in English then it would have major implications for language skills preparation. An English syllabus might have to take into account the possibility that students write up lecture notes, case-history synopses, laboratory reports, etc. in English.

In fact, questionnaire data indicate that only 7.1 percent (21) of the total number (295) questioned have occasion to write medical reports in English and among these 5.8% (17) - the majority - claimed that they write reports only "very rarely". Figure 5.9 shows that the large majority of students (92.9%) do <u>not</u> write reports in English at all.

FIGURE 5.9 <u>How Often Students Write Reports in English</u>

1. ********** 92.9% (274)
   Do not write at all

2. *** 5.8% (17)
   Very rarely

3. * 1% (3)
   Sometimes

4. * 0.3% (1)
   Often

(Total N=295) Missing=1

5.4.5 The Need for English in Lecture Comprehension

When asked to rank the amount of English required for comprehension of medical lectures, most respondants (58 percent) regarded the amount of English needed as being either "quite a lot" or "a great deal" (see Figure 5.10). This seems to confirm the preceeding observations about the definite presence of English as a medium of medical information in lectures.

FIGURE 5.10 Amount of English Required by Students for Lecture Comprehension

1. *** 2.0% (6)
   None at all

2. ****************************** 39.5% (117)
   A little

3. ****************************** 40.9% (121)
   Quite a lot

4. ************** 17.6% (52)
   A great deal

(Total N=296)

On the other hand, when students are classified according to year of study and compared there is no statistical significant association between the stages or levels reached in medical training and possible differences in perceived linguistic requirements for

lecture comprehension. This is shown in Figure 5.11.

FIGURE 5.11 Amount of English Required for Lecture Comprehension - according to Students' Year of Study

	Year of Study	
	3 - 4	5 - 6
1. None at all	1.5% (4)	4.5% (2)
2. A little	32.1% (101)	36.3% (16)
3. Quite a lot	32.9% (99)	50.0% (22)
4. A great deal	19.0% (48)	9.0% (4)

Mean Rank= 164.9 (Yr.3-4) and 143.7 (Yr.5-6)
Z= -1.8395 Probability= 0.0564 (Mann-Whitney U)

This is an unexpected result since it is generally assumed by medical staff as well as English departments that only when the student is at the end of medical training does s/he come to view English as important or necessary as a practical tool in medicine. Put another way, it is widely assumed that the English language needs of students vary greatly throughout the six years of study. The more experienced students are more aware, it is claimed, of the need for English because of their increasing exposure to English in medical literature. The data show, however, that students in all years have similar perceptions of the need for lecture comprehension

skills in English.

Figure 5.12 shows that students from both public and private medical schools experience similar problems in medical lecture comprehension. 64 percent of private institution students and 56.3 percent of public students claimed to need "quite a lot" and "a great deal" of English for medical lecture comprehension. There are no significant differences between students from the two types of institution.

FIGURE 5.12 Amount of English Required for Lecture Comprehension by Students from Public and Private Medical Schools

	Private Medical School	Public Medical School
1. None at all	1.3% (1)	2.3% (5)
2. A little	34.2% (27)	41.5% (90)
3. Quite a lot	41.8% (33)	40.6% (88)
4. A great deal	22.8% (18)	15.7% (34)

(Total N=296) Mean Rank= 160.7 (Private) and 144.0 (Public)
Z= -1.5983 Probability= 0.1100 (Mann-Whitney U)

5.4.6 Conclusion

Medical lectures in the Japanese institutions visited are characterised by a large amount of English-switching, particularly in descriptions of technological processes (e.g. echocardiography, CT-scan, radiography, etc.). Hand-outs during lectures are bilingually presented but lecturers during explanation often use the English terminology rather than the Japanese equivalent. In contrast, medical students appear to note-take in Japanese ignoring the alternative English versions of information.

In-course examinations are sometimes in English. This is surprising since the final examination for the degree of M.D. employs no English. English teachers in medical schools often point to the fact of the 'all-Japanese' "kokka shiken" as justification for ignoring calls for 'medical English' training in the language curriculum. However, students may need practice for in-course examinations (within the medical curriculum) which are conducted wholly or partly in English.

Students in all years of study and in both private and public medical schools maintain that English is relatively important for lecture comprehension. Less importance is placed on writing reports or homework in English and this fact could be linked to the tendency to note-take in Japanese during lectures. The need to write in English is not, apparently, as pressing as the need for reading and listening in English.

5.5 English in the Clinical "Dokushokai"

5.5.1 Introduction

(1) On two occasions during observation at Shimane Medical University I attended the evening "dokushokai" of the Department of Paediatrics ("Shōnika"). This academic meeting is held on a regular basis, weekly or sometimes fortnightly, in the conference rooms of the (hospital) Paediatrics Unit. The meeting is attended by members of the Paediatrics Department of the university as a whole. On the second visit, for instance, the meeting was attended by: 1 professor (paediatric cardiology), 2 lecturers, 3 interns, 4 graduate assistants and 6 final year students (out of 15) intending to specialise in child health.

The dokushokai was explained by participants as a "means of information sharing" among members of the department. But also, judging by the presence of undergraduate students, it apparently functions as a part of the medical education process - during the period of polyclinic training.

(2) In medical education literature there is virtually no mention of the dokushokai system as an educational tool in medical training. Nor does it feature in the comments of doctors when asked to outline language learning activities they engage in after qualifying. (That the dokushokai system does, in fact, possess this

role, I shall suggest presently). The English teaching staff in this university was not aware of the nature and function of English in the medical dokushokai. The English department has its own dokushokai which is devoted to group study of English and Japanese literature.

The only mention of the dokushokai in the educational literature seems to be a short contribution to the journal Igaku Kyoiku (Medical Education), 1980, by a visiting American doctor in a Tokyo medical school. Remarking on the practice of the dokushokai, Margolis pointed to the numerous physicians who:

> "recognising the importance of English both as a language with which to acquire new knowledge and to disseminate discoveries... sought advice on ways to increase the utilisation of English in Japanese medicine" (Margolis 1980: 138).

The writer then puts forward the dokushokai as one practical means of "clinical English practice":

> "Journal clubs are common and provide a conventional training ground in the use of English" (Margolis 1980: ibid).

There is little doubt that Margolis is referring to the dokushokai when he speaks of "journal clubs" and his insightful comments on the special role of English in medical dokushokai assist in understanding the reason for this academic practice in the Japanese medical school.

5.5.2 Dokushokai Procedure

The stages outlined below are from an actual observation of a Paediatrics Unit dokushokai conducted in December 1983.

(i) Chairman's introduction: brief introduction of the topics and presenters.

(ii) Presentation 1: "The Infant Seat as a Treatment for Gastroesophageal Reflux". Hand-outs are distributed to all participants by the team of two presenters. (Reference: New England Journal of Medicine 1983, 309: 760-63).

The presentation, in Japanese, consists of a summary of the paper and explanation of certain key points. Constant reference is made to precise points of application to the department's own therapeutic methods. At no time is the author 'criticised' for his research methods, conclusions, language, style, etc. Elicitation of meaning seems to be the essential focus of the activity.

There are questions from the other participants and much use of visual aids (OHP, blackboard) to illustrate replies. Explanatory diagrams are attached to the article by the presenters. Many of these are in English.

(iii) Conclusion. The chairman (Head of Department) concludes the discussion by putting some questions of his own. The next team of speakers are then introduced.

Three more presentations followed. All of the reading texts were taken from recent issues of American or European journals - all written in English (and with a clinical orientation):

(a) "The Infant Seat as a Treatment for Gastroesophageal Reflux". New England Journal of Medicine 1983, 309: 760-63.

(b) "Oral Prostaglandin E_2 in Ductus-Dependent Pulmonary Circulation". Circulation 1981, 294: 389-394.

(c) "Hyperprolactinemia and Delayed Puberty: A Report of Three Cases and their Response to Therapy". Paediatrics 1983, 71: 49-54.

(d) "Steroid Therapy in Severe Viral Hepatitis". New England Journal of Medicine 1976, 294: 683-687.

I would now like to consider the last presentation by a graduate assistant in the Paediatrics department as an example of the alternation between two important functions of the clinical dokushokai: (i) the sifting of medical information and (ii) the role of English in the presentation of this information.

Stage 1. A 5-minute oral summary of the article is given.

Stage 2. The group is referred to an 11-page hand-out which contains extracts from the article and a description of the therapeutic regime started by the speakers based on the substance of the publication.

Stage 3. The case is presented: the patient, a male

baby, 1-year old was admitted to the Paediatric Unit of Shimane Medical University Hospital in August, 1983, with symptoms indicating: thrush, generalised oedema, jaundice and viral hepatitis. After confirmation of viral hepatitis by laboratory investigation, treatment was initiated. The patient did not respond to medication and died in September, 1983.

The clinical notes of the speaker show the extent of borrowing of symptom terminology from English (lines 8, 12-16, 19):

by Akio Nakamura

9ヶ月 9日)　　ID 048 426 5

家族歴　　オ1子 長男

家族・祖父母・親兄弟の中で 肝臓病既往なし

身体所見

意識　irritability

体温　36.7°C　　脈拍 110/min

呼吸 30/min

体重　9.5 kg

皮膚　・Jaundice　　・出血斑 (−)

・generalized edema

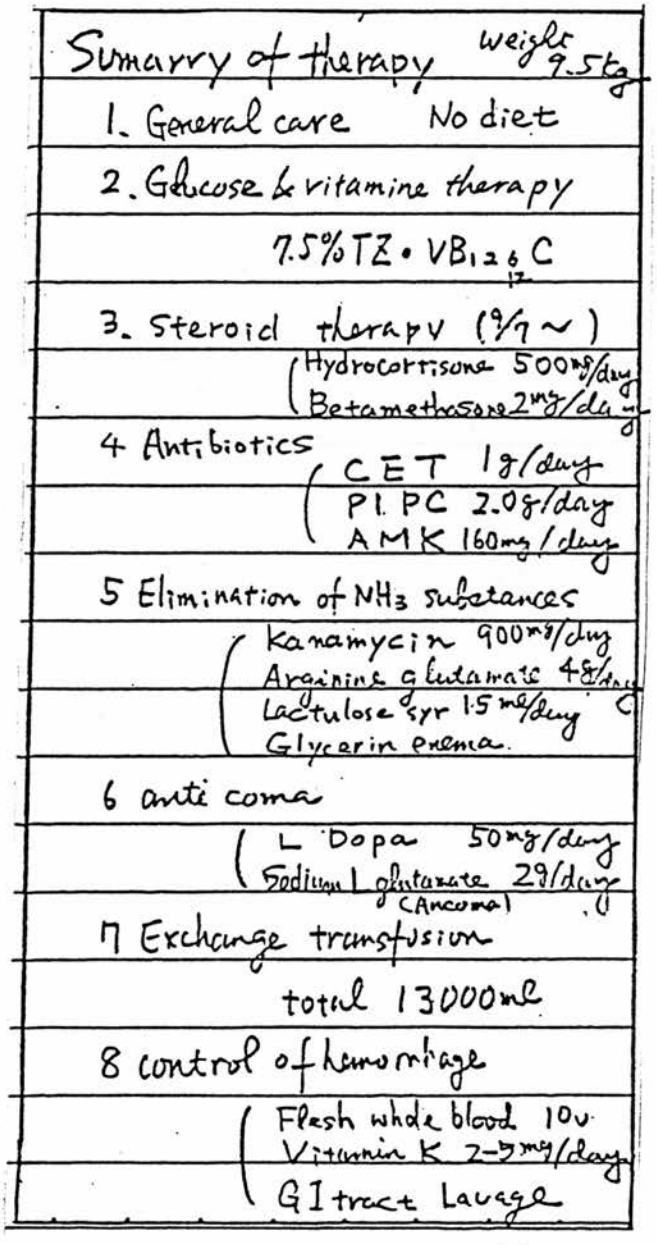
結膜　眼球 眼瞼とも icteric

口腔　ammoniac odor

口唇 dry　頬粘膜 thrush

心肺　異常なし

Stage 4. The treatment is described in outline by the speaker in English reading from her summary in the hand-out.



Stage 5. Comparison is made between the therapy described in the article and the present case. A summary of the statistics is fed onto the blackboard in English.

Stage 6. A detailed description of therapy continues in Japanese with reference to the case notes but now the speaker reverts to her previous linguistic practice of frequent intra-sentential or whole-segment switching to English as illustrated by the case-notes shown here:

◎Treatment ④⑤⑥⑧

Ⅰ◎ Supportive therapy.

Bed rest.

protein restriction 1g/kg/day

Ⅱ◎ Fluid therapy

(1) 内容

* 乏尿、浮腫のない時

10%TZ：生食：1mol KCl = 25：5：1

(Na 25mEq/l, K 33mEq/l, Cl 58mEq/l)

これに Vitamin B C 投与 1000 ml/m²

* 体重増加・浮腫・腹水 増強時

水分制限 最小必要尿量 + 不感蒸泄量

(1 ml/kg/hour 400 ml/m²/日) (300-500 ml/m²/日)

* 腎不全 時

不感蒸泄量のみで 電解質不要.

Ⅲ 特殊治療

- Exchange transfusions
- Peritoneal dialysis
- Plasmapheresis with plasma exchange
- Extra corporeal hemoperfusion
- L dopa 25-50mg を 5-10%TZに混じ 12-24時間で DIV.

Stage 7. The chairman opens discussion. The central question appears to be the advisability of continuing this type of therapy and the implications of the article for future policy in the Paediatric Unit.

Close of the dokushokai.

5.5.3 Conclusion

A number of observations can be made on the role of English in the dokushokai.

(i) The primary aim is to focus attention on recently published research which may be of practical application to the clinical practice of the department. But there seems also to be a strong linguistic rationale for the dokushokai and that is to provide clinicians and researchers with an opportunity to read, write, and to some extent speak in English. As Margolis explicitly stated:

> "If the presenter were required to summarise in English and perhaps outline a few criticisms of the article, fluency would soon follow" (Margolis 1980: ibid).

(iii) The dokushokai is a good example of the instrumental function of English as it mediates internationally available technical information. At the same time, we can see from each presenter's notes and reference to clinical practice in the university hospital

that English functions, in a practical sense, intranationally.

Code-switching is noticeable in many places, both in the written and in the spoken presentations.

(iii) English use was specifically noticed in following situations:

- Topic shift signalling: e.g. when the speaker wanted to subdivide or signal the transition from one rhetorical stage (discussion to conclusion for instance) or from one topic to another. A switch to English would occur as a boundary marker in these places. (English was used to mark topic changes at the following points during the talk: "Hepatic failure", "Management", "Treatment", "Exchange transfusion", "Peritoneal Dialysis").

- Summary sections: when the speaker wished to provide a resume of what was said.

- Abbreviation: speaker 4, in the course of describing the results of laboratory data, used the following abbreviations: RBC, WBC, Hb, GOT, LDH, AIP, HA, CPK, TTT, BUN, Ph, PTT, T-cholersterol, TPHA, ZTT, Che, T-bil, FDP.

(iv) The dokushokai is unusual if viewed pedagogically. Unlike most academic learning in Japan, the meeting seems to be conducted in a relaxed and enthusiastic atmosphere. Questions were asked on many occasions. Question and answer interactions are most uncommon in Japanese lectures.

There was more verbal interaction between the participants than in the conventional lecture. Participants seemed relaxed and unflustered when using English despite difficulties in pronunciation of medical expressions - either in individual expressions or during switches involving longer segments of speech.

Compare the aims/group dynamics of the dokushokai to another occupational group phenomenon in Japanese culture: the "kanban" system in Japanese industry. It is common for factory workers from the shop-floor level to higher management to meet regularly in their own time to discuss and plan ways of improving efficiency. Small presentations are made by workers in the form of suggestions, studies, and reports on other competitors.

The sense of group identity and cooperation expressed in the clinical dokushokai as in the rigorous kanban system in Japanese industry contrasts with the serious pedagogical problems that arise during the language training of medical students. I have already noted the total lack of teacher-student interaction during medical lectures. I shall go on to describe some of these problems in the next chapter. They include: lack of motivation and unclear curriculum goals - all of which do not help create a happy and productive atmosphere in which students can learn.

It might be possible to make use of the dokushokai model in a language training framework. This is a question which I shall return to when disscussing the language curriculum for medical students.

5.5.4 Note on the Importance of English in the Computerisation of Medical Records

The final presenter (Speaker 4) in the dokushokai presented clinical data about the hepatic patient in English. These data are permanently recorded on the university hospital computer. Remarkably, the data are filed in English.

Shimane Medical University - one of Japan's 'medical schools/hospitals of the future' - has initiated a filing system of clinical data from daily admissions and case histories which employs English only. The accompanying summary sheet of the hepatic patient's clinical bio-data illustrates the format of the English language computer input (Appendix 5.3). Longer established universities such as Hiroshima and Kyoto Prefectural Medical are now in the process of establishing identical systems.

The effect of the new method of hospital data recording will be to enable any medical researcher - Japanese or non-Japanese - to conduct epidemiological research employing Japanese data. It is widely believed that international epidemiological investigations into illnesses will be greatly assisted by immediate access to data from Japan - readable in English.

The linguistic implication of the new method of medical recording is very important for Japanese doctors' routine medical practice as well as for possible English training programmes. Above all there is now the need for physicians to write their clinical histories of patients

in English. Examples from the dokushokai presentations illustrated the practice of writing clinical histories in English. Hospital recording procedure - from the physician's first examination of the patient and thereafter - involving the patient's illness, symptoms, physical findings, laboratory data, treatment, biopsy, autopsy, etc. must now employ English as a matter of deliberate policy.

CHAPTER SIX

THE TEACHING OF ENGLISH IN MEDICAL EDUCATION IN JAPAN

CHAPTER SIX

The Teaching of English in Medical Education in Japan

6.1 The Teaching of English in Japan

Three years after the Battle of Trafalgar in 1805, a British ship under Dutch colours sailed into the Japanese port of Nagasaki and challenged Holland's privileged, albeit restricted rights with a nation that had lived under feudal dictatorship and enforced isolation for almost 200 years. This event proved to be of more lasting importance than the riot that immediately ensued and the suicide of a shocked local governor. The central government hastily issued orders for the training of interpreters to deal with further 'intruders'. In 1814, the first English-Japanese dictionary was prepared in manuscript form (6,000 entries) and thus began English studies proper, although still officially prohibited.

It is important for an understanding of the present-day English language education system and of contemporary Japanese attitudes to foreign culture (including language) to recall the climate of repression that existed in this feudal society, particularly with regard to foreign language studies. People were encouraged to view things foreign with both hatred and suspicion and government supression included the death penalty and imprisonment for scholars of Western languages (Doi 1979). The first native speaker of English taught English from behind

prison bars: Ranald Macdonald, a young adventurer from Oregon, who was confined in Nagasaki in 1848-49 and attended daily by 14 interpreters of Dutch - Japan's 'second' language until the late 19th century.

After the coup d'etat in 1868, known as the Meiji Restoration, in which the forward-looking "rangakusha" or scholars of Dutch were a motivating force, English studies increased rapidly. By 1875, there were 103 foreign language institutions in Japan, 96 of which taught English. A few years later, English formally entered the curriculum where it became a required subject in middle school.

During the war period, English virtually disappeared from the school curriculum as nationalists sought to purge Japanese of all traces of the enemy language. I have noted earlier the effect that this language nationalism had among doctors in their fifties and sixties. Not only was there removal of English from the curriculum but also extended disruption of schooling. However, the tide turned with the coming of the Occupation Forces who set up the present 6-3-3 system of schooling. In the postwar period, foreign languages, in the vast majority of cases English, sprang to life in the education system and are now being taught in junior and senior high schools.

6.2 English for the Medical School Bound Pupil

Although officially English is not, in fact, a

compulsory subject (a quirk of the system unknown even to some teachers of English), the overwhelming majority of the several million secondary school pupils in Japan 'opt' for the subject. The reason for this is quite simple. Without a qualification in English, entry to almost any form of higher education (a widespread aspiration) is rendered impossible. Together with mathematics, English is viewed as a convenient test of intelligence and therefore a useful 'marker' or entry test for various jobs and further levels of the educational system - including entry to medical schools.

In junior-high school, the number of students studying English is 99.9% (Kitao 1980). Classes begin in 7th grade (1st year of British middle school) and students - after the sweeping, centralised revisions of 1981 whereby English lessons were reduced in number - now study English for three hours per week, thirty five weeks a year; deducting national holidays (13days) this amounts to about 100 hours per year (Kitao ibid).

The three year senior high schools can be divided into two broad classes; vocational or technical schools and the regurar senior high schools with a more academically oriented curriculum. The latter constitute the majority since 40% of all Japanese high school students go on to 4-year university or 2-year junior college. Class size lies somewhere between 40-50 students per class and for language teaching this makes more personalised instruction a very difficult task.

Secondary education in Japan is, as is widely recognised, a tough assault course to enable entry to the 'right' universities. As in other countries, entry to professional careers in law and medicine is extremely competitive.

In view of the idiosyncratic attitudes of medical students towards the pre-medical years during which English is taught (see next section) it is important to realise the intense pressures upon the university-bound student. The reduction in hours by the "Monbusho" (Ministry of Education) for English lessons (a reduction of 25% in English study hours in junior high school) has, in fact, intensified examination preparation at the ubiquitous "juku" (cram schools) which 50% of all junior high school pupils now attend. English features prominently in the curricula of these widely attended cram schools and is regarded by the average Japanese pupil as a 'feared' subject, a 'bête-noir'. This feeling is openly expressed by pupils even after they have entered the higher education of their choice (see Tashima 1980).

The student entering medical school has had to worry and struggle over the English language for several years and is widely judged by university staff to be mentally exhausted or 'burnt-out'. The following comparative table indicates ratios for those attending cram schools (classes are held in early morning and evening) from primary school to junior high school. The figures in Table 6.1 show the progressive emphasis upon English study.

Whereas 10 percent of all 3rd grade primary pupils 'cram' for English, over 40 percent of pupils attend cram schools by the 2nd year of junior high school.

TABLE 6.1 Percentage of Japanese Pupils attending "Juku" from Primary to Junior High School - showing the progressive Emphasis on English

Subject	Year of School		
	3rd Grade	5th Grade	2nd J.H.
Arithmatic Mathematics	13.7	37.6	33.3
Social Studies	1.6	17.6	1.8
English	10.0	9.5	41.1
Japanese	7.7	30.6	13.1

Adapted from The First Survey on Children (1977), Youth Development Headquarters, Prime Minister's Office. (No numerical values given)

6.2.1 Admission Requirements for Medical School

Conditions for medical school entry can be outlined as follows. Candidates must have completed their school education (6yrs. of primary school, 3 yrs. of junior high school and 3 yrs. of senior high school). They are obliged to prove that they have attained the necessary academic standard by passing the "dai-ichi-ji-shiken" (national examination for university admission). In addition, each

university conducts its own entrance examination. The structure of these examinations is uniform nationally. Each examination consists of the 'fundamental' subjects - English and mathematics - although the level of difficulty varies according to the reputation and prestige of the medical institution. The 'elite' schools of medicine, i.e. those of the former imperial universities (Tokyo, Kyoto, Tohoku, Kyshu, Nagoya, Hokkaido) have a higher number of applicants than the middle-rank universities such as Hiroshima or Shimane Medical University.

6.3 Types of Medical School and Departments of English

6.3.1 "Igakubu" and "Ikadaigaku"

At the national level (i.e. government-subsidised level) medical schools are divided into two types: the faculty of medicine and the medical university. A faculty of medicine or "igakubu" (医学部) is a full member of the wider university even though it may be located on a separate campus. Hiroshima University's medical school, for instance, lies within the city whereas its neighbour Yamaguchi University's medical school is in an entirely different city from the main university campus in Yamaguchi. A medical university or "ikadaigaku" (医科大学) is an autonomous institution devoted solely to the medical sciences. The educational structure is the same in both types with the same numerical intake of students

each year. But it is important to point out the distinction between igakubu and ikadaigaku because closer inspection reveals some differences in the educational facilities possessed by the two types.

Medical universities, funded by central government, sprang up in the 1970s in response to government policy to provide at least one national medical centre for each prefecture, especially in those areas which had hitherto been neglected in medical services. An example of this type of area was the rural Shimane Prefecture ("Shimane-ken") on the south-west, Japan Sea coast. The largely rural inhabitants of Shimane whose inadequate diet is thought to be the cause of its having the highest incidence of hypertensive disease in the nation, were without such a major medical centre until the establishment of Shimane Medical University in 1975.

6.3.2 Effects of Political Policy on Curriculum Content

There is a further politically motivated reason for the setting up of these 'red-brick' medical schools. They are independent of a multi-faculty university and located away from another university campus. Shimane Medical University is located in the small town of Izumo (pop. 100,000) some 25 miles from the university town of Matsue (pop. 150,000) which hosts Shimane University.

It was argued by my informant, a professor of legal medicine at Shimane Medical University, that government policy "isolates" medical students in order to prevent

student unrest and rebellion spreading to other sections of a university. It must be remembered that in Japan the violent and prolonged student revolution of the 1960s was instigated by medical students.

Discontent and rebellion against the university authorities radiated from the medical faculties - where tradition and privilege were most entrenched - throughout the campus. The result of subsequent policy to remove traditionally militant medical faculties from the main campuses has, I believe, actually affected curriculum priorities. That is to say, the intellectual as well as geographical isolation of the new medical universities is such that the ordinary medical student and staff member are denied the social and educational exchange common to an integrated campus. This has led to an undercurrent of belief within medical universities that medical education must include a broader, liberal, more 'humanistic' element than is commonly available in this all-science institution. The 'humanistic problem' in medical education I shall discuss in detail later.

6.3.3 Effects of Financial Disparity on Curricula

If the newer medical universities have been disadvantaged in the above respects they also have been generously financed and provided with greater educational facilities. These financial differences account for the disparity among the various types of schools in the provision of English teachers.

The university faculties of medicine ("daigaku igakubu") must send their pre-medical students to the main campus where they are taught English and other subjects. At Hiroshima University, students are sent to the Faculty of Integrated Arts and Sciences ("Sōgōkagaku-bu") for English instruction. But not being a priority recipient of government money the average medical student in this faculty will rarely have the benefit of native speaker tuition - unlike students in the medical university (eg. Shimane Medical University). More significantly, students in the Sōgōkagakubu in Hiroshima may be placed in a mixed-subject class with students from other faculties. The presence of students in one class from the disparate faculties of law, engineering, science and the humanities has an inhibiting effect on the design of possible programmes in English for medical purposes.

Medical universities ("ikadaigaku") on the other hand hand, have institutional autonomy, with their own departments of English. The Department of English ("Eigoka") at Shimane Medical University has the largest full-time teaching staff (3 members) in the premedical "Ippan Kyoiku" (Faculty of Liberal Arts and Sciences - literally "General Education"). The English teaching department includes a native speaker hired specifically for the position brought from Britain (via the British Council). There is also a part-time, native instructor

to advise the Journal of Shimane Medical University on language matters.

6.3.4 Private Schools of Medicine

Figure 6.1 shows four types of medical school in Japan. Another type of institution in the private medical school: "Shiritsu Daigaku Igakubu" or faculty of medicine and the "Shiritsu Ikadaigaku" or private medical university. There are approximately 30 private institution established by the "gakko hojin" (voluntary educational societies). The government, in addition to its direct financial support of both public and private medical schools, assists them indirectly by granting certain tax exemptions.

Like the financial and organisational differences which I have noted between institutions in the public sector different levels facilities also seem to exist between schools in the private sector. Consider, for instance, two schools which were visited during field work: Kurume University School of Medicine and Kyorin Medical University - the first being an attached medical school in the south-west of Japan on Kyushu Island and the latter an independent medical school in the heart of Tokyo in the north-east. Both places schedule language classes (i.e. English classes) during the premedical phase - 2 years - but the number of hours allocated and the size of staff vary considerably. Kurume possessed

a full-time staff of 2 (Japanese) and 2 part-time (both American) whereas students at Kyorin had the benefit of only 1 full-time staff member and 2 part-time (all Japanese).

FIGURE 6.1 Diversity of Distribution of English Teachers among 4 Medical Schools in Japan

	Japanese		Native English Speaker		TOTAL
	F.T.	P.T.	F.T.	P.T.	
Shimane	**		*	*	4
Kurume	**			**	4
Kyoto	*	*		*	3
Hiroshima		*		*	2

Key: F.T. = Full-Time / P.T. = P.T. = Part-Time

6.3.5 Politico-Economic Factors Revisited: the "Furitsu" (Prefectural) Schools of Medicine

The fourth category of medical institution comprises the "furitsu" (prefectural) medical schools established and funded principally by local governments. The strain on the financial resources of large urban councils seems to have impacted upon local government-sponsored medical schools. Once again, we can observe an unequal distribution of resources compared to the newly-established Ikadaigaku. English teaching has been affected

by important political and economic factors. Figure 6.1 shows the unequal distribution of English teaching staff among 4 schools. Kyoto Furitsu Ikadaigaku in the old capital, Kyoto, has the smallest department of English of all the schools visited. It has fewer facilities than the other institutions (eg. old audio-visual equipment and no language laboratory). An explanation was put forward by my informant at the university. Firstly, the city has been in severe financial difficulty over the last two decades (having no industrial base like neighbouring Osaka and entirely dependent on the tourist industry). The problems have hampered educational expansion. Secondly, the governor of Kyoto Prefecture - a Communist - has remained in power for the past 20 years. In an attempt to undermine the power base of a Communist-led council there has been covert run-down of financial subsidies from central government which has been Conservative ("Jiminto" - Liberal Democratic Party) since the end of the last war.

6.4 The Medical School Curriculum

The course leading to the "Igakushi" (equivalent to M.D. in the United States) consists of two parts: the 2 year premedical course and the 4 year medical course. The medical course is subdivided into basic and clinical phases each of 2 years duration. Table 6.2 outlines the premedical course which includes: chemistry, physics, biology, psychology, subjects of 'general culture'

("Kyōyō") including the humanities, the social sciences and foreign languages (English and German), health and physical education.

The medical curriculum is devised by the Ministry of Education, Science and Culture and is followed closely by all medical schools in Japan. According to the official regulations (Nihon Igaku Kyoiku 1971) the minimum number of instruction hours is fixed at 4,200 but at many schools the actual time devoted to teaching exceeds this figure. According to the statement by the Ministry of Education:

> "Approximately one-half of the instruction hours are devoted to basic sciences of which anatomy occupies less time than is customary in other countries. During clinical studies more time is given to internal medicine than to medicine" (W.H.O. 1981: 49).

The degree of "Igakushi" is conferred by examination which is in Japanese. There are both written and oral examinations held at the end of each course. Examinations are frequent and demanding. A large number of students are obliged to repeat an examination as part of the normal course of instruction in any one subject. (The practice of re-taking examinations is termed "wieder kommen").

The German system as described by A. Flexner 60 years ago is an accurate description of the present-day system observed in this study at Shimane Medical University:

> "A student who fails is re-examined 6 weeks later. If he fails a second time, he is examined

again, but practically no one is permitted to fail the third time" (Flexner, 1920: 126).

TABLE 6.2 Curriculum Components of the Premedical Course at Shimane Medical University

FACULTY OF GENERAL EDUCATION

Compulsory subjects

1. Psychology
2. Chemistry
3. Biology
4. English
5. German
6. History
7. Economics
8. Mathematics
9. Physics

FACULTY DEPARTMENTS

Elective subjects

10. Physical Education
11. Social Studies
12. Geography
13. Anthropology
14. Electrical Theory
15. Electrical Theory

The subjects taught in the medical curriculum are shown in Table 6.3 below. Courses consist of lectures, laboratory sessions, and polyclinic or hospital work.

TABLE 6.3 Curriculum Components of the Medical Course at Shimane Medical University

SUBJECT	YEAR OF STUDY				
	2	3	4	5	6
1. Anatomy	X	X			
2. Physiology	X	X			
3. Biochemistry	X	X			
4. Pharmacology	X	X			
5. Pathology		X	X		
6. Microbiology Immunology		X	X		
7. Legal Medicine		X	X		
8. Environmental Medicine			X	X	
9. Internal Medicine		X	X	X	X
10. Dermatology		X	X	X	X
11. Paediatrics		X	X	X	X
12. Surgery			X	X	X
13. Opthalmology			X	X	X
14. Orthopaedics			X	X	X
15. Urology			X	X	X
16. Otorhino-laryngology			X	X	X
17. Radiology				X	X
18. Anaesthesiology				X	X
19. Obstetrics & Gynaecology			X	X	X
20. Psychiatry				X	

6.5 Traditional Student Attitudes towards Premedical Education

English language teaching suffers in the medical school from not being taken seriously by students.

In order enter medical school students have passed through, in Japan's educational jargon, "jigoku jiken" (the examination hell). The entry examination is the culmination of several years of severe competition. This begins with examinations to enter a 'name' kindergarten, a prestigious primary school, and so on up the educational ladder. The dramatic and violent effect of this phenomenon upon pupil behaviour and domestic life has been noted elswhere (Maher 1984, Reischauer 1980, Kitao 1981). Briefly, once students have succeeded in climbing the educational summit by entering medical school it is 'downhill all the way': "hairinikui sotsugyoshiyasui" (it's tough to get in but a snap to get out). There is a carefree, almost careless attitude among students during the premedical phase. This contrasts with the seriousness with which medical studies are pursued when the students pass from General Education ("Ippan Kyoiku") to the medical phase proper. The observations of the American medical educationalist J. Bowers twenty years ago directly parallel my own recent observations of students at Shimane Medical University:

> "The Japanese student of medicine usually recalls the premedical years as the most pleasant and least demanding phase of his educational program, stretching from

kindergarten to the award of the Igaku Hakase. There are no crucial entrance examinations on the horizon, and his future success in achieving his career is now assured: 'In the premedical phase we played, played and played.' Teaching is primarily through lectures and attendance at class is only required at Kyoto in the foreign languages. The only courses which usually present major problems are German, English and mathematics, but there is little danger of failure. There are many hours to be spent in sports, cultural pursuits and, for an occasional student, the perusal of fundamental treatises on the sciences that are basic to medicine such as molecular biology, nucleic acid metabolism, and biophysics." (Bowers 1964: 85).

6.6 English at Shimane Medical University: Curriculum Goals and Teaching Materials

6.6.1 The Curriculum

The course of "Eigo" (English language) at Shimane Medical University extends over a 2-year period. The course begins immediately on entry to medical school. Students are divided into 2 classes according to alphabetical order - not according to linguistic or intellectual ability - and remain in the same classes for the duration of the six years at medical school. This division holds for all subjects throughout the entire period so that no possibility exists for class streaming or language (placement) testing.

At Shimane Medical University instruction is given to two groups of students (50 in each group - 100 being the total admission number each year). Each group receives 200 minutes of instruction in English per week for 2 semestres ("gakki"). There are 2 semestres in an academic year. As pointed out earlier, three full-time teachers are employed to teach classes - 2 Japanese and 1 native speaker of English.

The classrooms in this new university (established 1976) are only just able to accomodate 50 students at one time. Audio-visual aids such as slide projector, video machine, tape recorders, etc. are available for use but cassette recorders were the only equipment observed in use. In Ippan Kyoiku, English is taught alongside several other subjects.

Tables 6.4 to 6.6 show that English is just one component of a full premedical programme of classes. English, as all other subjects, must 'compete' for the student's attention throughout the first two years of medical school.

Table 6.4 cites other foreign languages in the curriculum. German is a compulsory subject (with its own department and full-time professor) whilst French is an elective. French was introduced into the curriculum on the insistence of a single member of the medical school's steering committee on curriculum policy; this professor of medicine had studied in France and wished to teach the subject as a result of his interest in French language and culture.

TABLE 6.4 Course of Study for Premedical Students in the Faculty of General Education at Shimane Medical University (English classes shown in capitals)
1st Year - Semester 1 & 2

1st YEAR

SEMESTER 1

Period		1 2	3 4	5 6	7 8
Time		9.00-10.40	10.50-12.30	13.20-15.00	15.10-16.50
Mon	A	Mathematics	Physics	Remedial gymnastics	German Sports
	B				
Tue	A	ENGLISH 2	Religion Ethics or	Law Art or	Sports German
	B	ENGLISH 1			
Wed	A	German	Psychology		
	B	German			
Thu	A	Chemistry	Geography	Sociology	ENGLISH 1 ENGLISH 2
	B				
Fri	A	Literature 1 or	Politics or	Phylosophy	ENGLISH or
	B	Literature 2	History		French or Education
Sat	A	Biology	Politics Economics or		
	B				

SEMESTER 2

		9.00-10.40	10.50-12.30	13.20-15.00	15.10-16.50
Mon	A	Mathematics	Physics	Politics Economics or	German Sports
	B				
Tue	A	ENGLISH 1	Religion Ethics or	Law Art or	Sports German
	B	ENGLISH 2			
Wed	A	German	Psychology	Anthropology	Medical Latin
	B	German			
Thu	A	Biology	Physics	ENGLISH 1 ENGLISH 2	Sociology
	B				
Fri	A	Literature 1	Cultural Anthropology	History	French/Educ. ENGLISH LL ENGLISH or
	B	Literature 2			
Sat	A	Chemistry	Mathematics		
	B				

TABLE 6.5 Course of Study for Premedical Students in the Faculty of General Education at Shimane Medical University (English classes shown in capitals): 2nd Year - Semester 1

2nd YEAR

SEMESTER 1

Period		1 2	3 4	5 6	7 8
Time		9.00-10.40	10.50-12.30	13.20-15.00	15.10-16.50
Mon	A	Physiology	Physical Ed.	Experimental	Physics
	B		German	Experimental	Chemistry
Tue	A	Medical	ENGLISH 4	Experimental	Biology
	B	Physiology	German	Experimental	Physics
Wed	A	Anatomy			
	B				
Thu	A	Organic Chemistry	Radiation science or	Experimental	Chemistry
	B		Psychology	Experimental	Biology
Fri	A	Physiology	ENGLISH 3	German	Anthropology
	B		German	Physical Ed.	
Sat	A	Biology	ENGLISH 4		
	B		ENGLISH 3		

Period		1 2	1 2	1 2	1 2
Time		9.00-10.40	10.50-12.30	13.20-15.00	15.10-16.50
Mon	A	Physiology	Physical Ed.	Organic Chemistry	Physiology
	B		German		
Tue	A	Information Technology	German	Experimental	Anatomy
	B	Electronics for Medicine	ENGLISH 4	Anatomy	
Wed	A	Anatomy	ENGLISH 4		
	B		ENGLISH 3		
Thu	A		Mathematical statistics	Physiology	Organic Chemistry
	B				
Fri	A	Genetics	ENGLISH 3	Physical Ed.	Organic chemistry
	B		German	German	
Sat	A	Physiology	Physiology		
	B				

TABLE 6.6 Course of Study for Premedical Students in the Faculty of General Education at Shimane Medical University (English classes shown in capitals): 2nd Year - Semester 2

2nd YEAR

SEMESTRE 2

Period	1	2	1	2	1	2	1	2
Time	9.00-10.40		10.50-12.30		13.20-15.00		15.10-16.50	
Mon	Physiology		Physical Ed. German		Organic chemistry			
Tue	Informatics Electronics for Medicine		German ENGLISH 4		Organic chemistry			
Wed	Anatomy		ENGLISH 4 ENGLISH 3		Organic chemistry			
Thu			Mathematical statistics		Organic chemistry			
Fri	Genetics		ENGLISH 3 German		German Physical Ed.		Organic chemistry	
Sat	Physiology		Organic chemistry					

	1	2	1	2	1	2	1	2
	9.00-10.00		10.50-12.30		13.20-15.00		15.00-16.50	
Mon	Organic chemistry		German Physical Ed.		Experimental organic chemistry			
Tue	Informatics Electronics for Medicine		German ENGLISH 4		Experimental organic chemistry			
Wed	Anatomy		ENGLISH 4 ENGLISH 4		Experimental organic chemistry			
Thu	Organic chemistry		Mathematical statistics		Experimental organic chemistry			
Fri	ENGLISH 3 German		German Physical Ed.		Organic chemistry		Organic cheminstry	
Sat	Genetics		Organic chemistry					

6.6.2. The Syllabus

There is no explicitly integrated policy towards language learning at Shimane Medical University. The most commonly stated aim is to "make students read more English". There are, in fact, three written statements of teaching goals in the Department of English. Each is an expression of the academic orientation of the individual course teacher or a mixture of the teacher's intuitions about the usefulness of English to students. The following are course descriptions provided to students by each tutor (2 Japanese and 1 British):

1st Year English Course

Instructor A: Japanese, former teacher of English at local high school. Research interests include: Jewish-American literature.

> "Shakespeare, Milton, Gray, Wordsworth, Keats, Tennyson, Eliot are names of people long past. But these figures of English literature have had a major influence upon world literature. Through a consideration of this literature I hope to impart an appreciation of the literature itself as well as the character of the people from whom it came. As far as possible we will try to achieve this by contrast with Japanese literature."

Class textbook: The Golden Treasury - Palgrave

Instructor B: Japanese, former teacher of English in local high school. Research and academic interests include: English (British) literature, thanatology, Buddhist and Hebrew concepts of death and immortality.

> "Why do we study a foreign language in medical school? It is not only to be able to read and write medical literature. It is to be able to understand the thoughts and feelings of individuals as expressed in literature. This feeling is essential for doctors."

Class textbook: The Little Angel - R. Lind
American Short Stories of Today

Instructor C: British, British Council appointed lecturer, formerly Christian missionary in Japan. Academic interests: TEFL.

> "A good knowledge of English is essential for medical scientists today. In the English class, students will practice the four basic skills of hearing, reading and writing, with special emphasis on reading comprehension. The textbook will provide us with interesting material on the development of medical science in the West."

Class textbook: The Men of Medicine - Katherine Shippen

2nd Year English Course

1st Semester

Instructors A and B: (description as above).

> "In the context of foreign language study in the Faculty of Medicine we can state the main purposes of the study of English:

1. Rather than attempting to write on topics concerning future specialisation (i.e. medicine) you will be expected to enlarge your fundamental reading capacity in English.

2. By contrast between Britain and America and English and Japanese we will continue to explore, as in the first year, the cultural/liberal background at the heart of the medical world ('Igaku no to toshite no kyōyō').

1. Implementing the first objective, Professor A will examine original works related to medicine.
2. Professor B will concentrate on major works of literature and employ these as class teaching material. This class will make demands on the student by trying to increase the depth of his reading."

Class textbook: To Please His Wife - Thomas Hardy
You're Not Too Old to Have a Baby - Janet Price

Instructor C (description as above):

"The purpose of this course is to widen the student's experience of English, and to strengthen his or her ability in the writing of English composition. A thorough grasp of any foreign language is impossible without some knowledge of the culture in which that language has developed. Our textbook will give us many topics for discussion, many opportunities for written and spoken exercises and many interesting comparisons in the areas of Japanese and western culture."

Class textbook: Contrast and Comparisons - James Kirkup

In course descriptions for the previous academic year, instructors A and B reiterated the same curriculum goals using different textbooks. Materials included both literary works ("bungaku sakuhin") and texts related to medicine ("igaku ni kanren no aru gensho"):

1st Year

The Distinctiveness of the Japanese - Donald Keene
The Orange Tree - R. Lind

2nd Year

Dahl's Best Short Stories - R. Dahl
The Healer's Art - Ernest Cassell

There are strong cultural objectives underlying this selection of teaching materials. The following description by instructor C for the 2nd year course reflects the cultural orientation:

> "The purpose of this course is to widen the student's experience of English and to strengthen his or her ability in the writing of English composition. A thorough grasp of any foreign language is impossible without some knowledge of the culture in which that language has developed. Our textbook - England, The Quality of Life - will give us many topics for discussion and valuable insights into the thought patterns of English people."

2nd Year

England: The Quality of Life - Trevor Legget
Practice in Medical English - K. and C. Methold

6.6.3 Classroom Methodology

At Shimane Medical University, the two Japanese instructors deal exclusively with reading. The methodology used is the 'grammar-translation' method. Many of the texts are literary works already available in translation - a fact noted by students who, it is widely known, circulate underground copies of published translations. A typical lesson procedure is as follows:

(i) One student is selected to read a short paragraph or a few lines from a textbook.

(ii) The same or different student translates aloud into Japanese.

(iii) The instructor's model translation is given orally.

(iv) The instructor comments on any grammatical difficulties that may have arisen and expands on the structural and lexical points of interest in the extract.

(v) An interpretive commentary (formal style) is delivered by the lecturer.

On two occasions one lecturer asked students to comment (in Japanese) on the significance of the text (Saul Bellow's The Dangling Man). In fact, the students did not reply and appeared uneasy and embarassed at being asked to express their opinion in class.

The methodological stance of the foreign lecturer was clearly more 'skills-based' and 'learner-centred'

than the text-based and 'teacher-centred' approach described above. Instructor C was sensitive to the needs of individual students and emphasised the importance of practice in speaking and listening. There was much use of the blackboard to illustrate lexical and structural problems associated with students' composition errors. The problems were reviewed in class after individual correction of compositions. Certain items were practised orally by means of pair practice or by work in groups.

The instructor seemed uncomfortable in trying to reconcile the use of a book (Legget 1979) which dealt with inter-cultural details and comparisons (Japan and Britain) with the need to practise linguistic skills. The teacher seemed unable to integrate his stated curriculum aim which was to "improve language skills" with the co-aim of "cultural teaching" about Britain. Cultural learning goals were implemented simply by classroom reading and lecture-style commentary.

All the teachers observed showed little or no wish to use audio-visual input in their classes. Heavy desks and chairs together with an overcrowded classroom made movement for dramatic, role-play, inter-group work purposes difficult. Even so, none of the teachers used pair-practice as part of their methodological repertoire. This would have been a feasible and simple method of increasing interaction between students. However, pair-practice would not accord with the teacher-centred ethos underlying the methodology adopted here.

6.7 EMP Teaching Materials: what is available to doctors and students in Japan?

6.7.1 Introduction

In this section an investigation of the range and content of English language learning materials available to doctors and students is described in detail. The purpose of such a description is threefold. Firstly, it is important to note, in the manifold aspects of what might be termed ESP medicine materials, where the theoretical and methodological emphases lie. What, to put it another way, is the conventional wisdom of its practitioners - the textbook writers, the pedagogical theoreticians? What constitute the normative goals of language learning coursebooks?

Secondly, I point out that special purpose (EMP) materials do, indeed, exist in Japan. It has been a very common feature of my discussions with English teachers in medical schools that any question about the teaching of 'medical English' has invoked responses such as: "How can I use medical textbooks in class? I'm not a doctor. It's not my job." In other words, there is the problem - not unfamiliar to the issue of ESP curriculum innovation - that English teachers often equate EMP teaching with subject-content teaching and, pars pro toto, EMP teaching materials with subject-content materials. This description, therefore, provides a range of realistic alternatives for the teacher of English. Whether they

are eventually adopted or not pedagogical alternatives to the actual use of medical textbooks and journals are shown to exist.

Thirdly, this description of EMP materials contrasts with the widespread assumption amont Japanese teachers and foreign teachers alike that ESP medicine is an imported ideal of Western applied linguistics. It is held to be an imported "gaijin" (foreigner) methodology alien to the nature of Japanese learners. In Kurume University's Faculty of Medicine (Figure 6.2) dismissive mention was made of one "trendy" publication proposed by a foreign instructor - the British publication Nucleus Medicine. However, this investigation has confirmed that specialised language textbooks do exist for Japanese learners and produced by Japanese authors.

Finally, two relevant facts must be mentioned with regard to the production and use of the textbooks analysed. None of the 24 works investigated were in use or had been used in any of the medical schools visited. Secondly, all of the published works are written by Japanese doctors. None were written by teachers of English from or outside medical schools.

6.7.2 Types of Textbook Used in 3 Medical Schools

Overall, English textbooks confirm the general orientation towards literary fiction. I have distinguished two kinds of pedagogical materials: those dealing with cross-cultural, national or ethnic comparisons and those involving medical topics. The medical topic category

belongs more to popular medical journalism and the history of medicine than to 'hard' medical information or instruction for those in the medical profession.

FIGURE 6.2 Type and Distribution of Pedagogical Materials used in English Language Curricula in 3 Medical Schools

medical school	literary fiction	cross-cultural comparison	medical journalism
KURUME	***	*	
HIROSHIMA	**	*	*
KYOTO	**		*

Kurume

Kurume University's curriculum employs short works in English dealing with old Japanese myths (Lafcadio Hearn's Legends of Old Japan), a novel of D.H. Lawrence (The Rainbow) and the "Kojiki" a 5th century collection of folk tales of Japan (translated into English). One part-time instructor (American) in an attempt to introduce a medical English component to the curriculum recently began a course on medical terminology using Smith and Davis' Quick Medical Terminology (1982). The question was put to this instructor: "Are your views about the aims of an English course in medical school shared by the rest

of the English staff? If so, what kind of practical consensus exists?" The reply seemed to suggest a clear division of opinion betwee Japanese and foreign instructors about curriculum goals:

> "Well, the two foreign teachers agree on a fairly low-key ESP approach and the head of department, funnily enough, subscribes to these aims but hasn't given any input. The other professor teaches old Japanese myths - the "Kojiki" and that sort of stuff. His field is mythology and D.H. Lawrence. A total student turn-off."

Hiroshima

Hiroshima University's Faculty of Medicine which is, like the above, an "Igakubu" employs literature teachers (see Figure 6.1). Interestingly, the textbook Practice in Medical English (Methold and Methold 1975) was also being used by one teacher. However, important changes to this British work had been made for Japanese medical schools:

1. It is a Japanese edition of the Western original with extracts abridged in every case.
2. There are Japanese glosses for what were, in the original, English-only explanations of vocabulary.
3. All exercises and language practice items (e.g. drills, matching and multiple-choice exercises) are removed from the Japanese edition.

It is clear that this work which, as the title originally suggested, attempted to provided practice in medical English has been radically modified to suit the needs and teaching methodology of the medical university

teacher. The modification emphasises a translation or 'literary' approach to the text (with lengthy exposition and interpretation by the instructor) instead of providing language practice for the users.

Other works in use at Hiroshima were: (cross-cultural) The Distinctiveness of the Japanese (D. Keene 1980), (literary) The Art of Loving (Fromm 1949), and The Existentialists (Price 1975).

Kyoto

An imaginative approach to the English curriculum is that of Kyoto Prefectural University of Medicine which tries to integrate medical topic and literature. The only full-time teacher of English is committed to developing an EMP approach whilst, at the same time, making it clear that because of his "limitations of medical knowledge" (Masuda - personal communication) he must "soften" the medical input in some way. Medical topics of potential interest to students are alternated with extracts from the literary fiction of E. Hemingway (Indian Camp) and D. Defoe (Journal of the Plague Year). Texts are selected which might deal with or give rise to issues affecting medicine itself (such as the practice of euthanasia and the use of psychosomatic drugs in A. Huxley's Brave New World).

The history of medicine features prominently in classroom materials with extracts dealing with Vesalius (Ibanez' A Prelude to Medical History, 1979) and Hippocrates ("The Oath of Hippocrates" in Encyclopedia

Americana). This contrasts with extracts of medical journalism from Time and Newsweek magazines.

Looking at the overall syllabus of this instructor, out of a 24 hour course 1 hour is specifically devoted to what is termed 'Medical English', 1 hour to dictionaries and 1 hour to medical terms. The methodological exploitation of this course is designed to improve students' reading and writing ability (Appendix 6.2 shows outline of syllabus at Kyoto).

This attempt by the head of department at Kyoto to reorganise the curriculum along 'EMP' lines contrasts with the completely free hand given to co-instructors in this university of medicine. As is Japanese academic practice, co-instructors are allowed to select their own materials for teaching. These (two) other instructors use a range of literary fiction and non-technical writing as teaching material: American short stories from Poe, Hawthorne and Faulkner, essays from Salinger and Kung as well as the speeches of Ronald Reagan on Linguaphone.

6.7.3 Japanese EMP Textbooks

The subsequent analysis of medical English textbooks available to doctors and students in Japan and produced by Japanese authors is based upon an investigation of bookshops on the medical campuses visited. Some of these works could also be found in the libraries of the medical colleges. The point to be stressed is that in the libraries and bookshops of each institution a range of 'medical English' language learning materials are available to

FIGURE 6.3 Instructional Components in Japanese EMP Materials

COMPONENTS	TEXTBOOKS A-X																							
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X
1.To improve writing	-	+	-	-	-	+	-	+	+	+	+	+	-	+	+	-	+	+	+	-	+	-	-	-
2.To improve reading	-	-	+	+	-	-	-	+	+	+	-	+	-	+	+	-	-	+	+	-	-	-	+	-
3.To improve speaking	+	-	-	-	+	-	+	-	-	-	-	+	+	-	+	-	-	-	-	-	-	-	+	-
4.To improve listening	+	-	-	-	+	-	+	-	-	-	-	+	+	-	+	-	-	-	-	-	+	+	-	+
5.For medical meetings	+	-	-	-	-	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-	-	+	-	+
6.Authentic extracts	+	+	+	+	+	+	-	+	+	+	+	-	+	+	+	+	+	+	+	+	+	-	+	+
7.Fictional extracts	-	-	-	-	+	-	-	-	-	-	-	+	-	-	-	-	+	-	-	-	-	+	-	-
8.Dialogue format	+	-	-	-	+	-	+	-	-	-	-	+	-	-	-	-	-	-	-	-	+	+	-	+
9.Bilingual text	+	+	+	+	+	-	+	+	+	+	+	+	+	+	+	+	+	+	-	+	+	+	+	+
10.Annotated	+	+	+	+	-	+	+	-	-	-	-	-	+	-	+	-	+	+	+	+	-	+	+	+
11.Clinical content	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
12.Basic med. content	+	-	+	-	-	+	-	-	+	+	+	+	-	+	+	+	+	+	+	+	+	+	+	-
13."Social" English	+	-	-	-	+	-	-	-	-	-	-	+	+	-	+	-	-	+	+	-	-	+	+	+
14.Comprehension practice	-	-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15.Communicative "	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16.Structural "	-	-	-	-	-	-	-	-	-	-	-	+	-	-	-	-	-	-	-	+	-	-	-	-
17.Pronunciation "	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18.Contrastive phonology	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
19.I.P.A. transcription	-	-	-	-	-	-	+	-	-	+	-	-	-	-	-	-	-	-	+	-	-	-	-	-
20.Other transcription	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21.American English spelling & pronunciation	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	-	+	-	+	+
22.British English " "	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+	+	-	-	-	-
23.American idiom & context	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	-	-	+	+	+	+
24.British " "	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+	+	+	-	-	-	-
25.Medical terminology practice	+	+	+	-	+	-	+	+	+	+	+	-	+	+	+	+	-	+	+	+	+	+	+	+
26.Native-speaker/Japanese collaboration	-	-	-	-	+	-	-	-	-	-	-	-	+	-	-	-	+	+	-	+	+	-	-	-
27.General index	-	-	-	-	-	-	-	-	-	+	-	-	-	-	+	-	-	+	-	+	-	-	-	-
28.Abbreviations practice	-	+	-	-	+	-	+	-	+	+	-	-	-	-	-	+	+	-	+	-	-	+	-	-

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X
29.Illustrations	+	-	-	-	+	-	+	-	-	-	-	-	-	-	-	-	-	+	-	-	-	-	-	-
30.Glossary	-	-	+	-	-	+	-	-	+	+	-	-	-	-	+	+	+	-	+	-	-	-	-	-
31.Testing or Review	-	-	-	-	-	-	-	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-	-	-
32.Teacher's Book	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
33.Teacher's notes	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
34.Cassette recording	+	-	-	-	+	-	+	-	-	-	-	+	-	-	-	-	-	-	-	-	+	+	-	+
35.Visual aids (slide/OHP)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
36.Revised edition	-	+	-	-	-	+	-	-	-	-	-	-	-	-	-	-	+	-	-	+	+	-	-	-

---

KEY TO TEXTBOOKS

A	Aoki 1983
B	Eizo 1963
C	Ebizuka et al. 1978
D	Fujita 1970
E	Takashima et al. 1975
F	Oria 1980
G	Harada et al. 1980
H	Noda et al. 1970
I	Takahashi 1969
J	Miano 1972
K	Iriuchijima 1979
L	Okijima 1976
M	Smith 1979
N	Kobayashi 1972
O	Mizoguchi 1976
P	Radford 1979
Q	Okuda 1969
R	Tomoyoshi 1962
S	Methold 1982
T	Roberts et al. 1973
U	Murakami et al. 1974
V	Cassidy et al. 1982
W	Simpson 1983
X	Pfeiffer et al. 1982

potential buyers or borrowers. EMP materials exist independently of the 'official' English teaching programme in the medical school - a programme which operates from a different set of curriculum goals entirely.

Where 'medical English' is involved in the content of materials it is frequently 'disguised' in the form of literature (e.g. the A. Huxley literary work cited above) or presented through popular magazine or newspaper extracts which features a limited amount of specialised vocabulary. Examples of teaching materials selected for their authenticity (e.g. actual medical textbooks or journals) or for their pedagogical usefulness in technical reading/writing skills improvement did not exist among the materials examined in the 4 institutions.

6.7.4 Composition Textbooks

A great number of domestically produced medical English materials for Japanese doctors and medical students deals with the problem of writing skills improvement (Figure 6.3: Textbooks B, E, H, I, J, O, Q, T).

Consider, for example, Togari Eizo's Eibun Karute no Kakikata (How to Write Case Notes in English), 1963. As with many of the Japanese materials observed here, the textbook writer does not rest within the boundaries of his stated aim but links the problem of writing with the problem of the Japanese learner's difficulty with "Eikaiwa" (spoken English). The writer prefaces his book with anecdotal details and warnings to the reader about the well-known reluctance of Japanese to express

themselves publicly in English:

> "Generally, Japanese are poor at languages. And if one doesn't have any confidence, one is always afraid of speaking languages. It is better to try to use easy English and speak out. There is an English language school in the U.S.A. which consists of 3 terms. European students finish their classes after the first term. Asian and African students finish it after the second term but the Japanese are obliged to remain till the very end. This is because the Japanese students cling together for support and speak Japanese. The only way forward, the secret of foreign language improvement, can be summarised in the expression 'Speak up'" (Preface to Eizo's Eibun Karute no Kakikata).

Although this is probably an accurate assessment of the average Japanese learner's difficulty with speaking English, nowhere in the book is there help with oral fluency.

The textbook usefully divides history-taking into 3 separate and sequential stages. This is preceded by a short description in Japanese on the ethics and manner of the doctor-patient relationship.

Biographic Data focuses on taking details of the patient's name, race, occupation, marital status and religion. This is followed by the patient's present history (Section III) subdivided into (i) Chief Complaint (C.C.) and (ii) History of Present Illness (H.P.I.). Section II describing Present Status (P.S.) occupies two-

thirds of the whole text. In this section, physiologic and pathologic criteria are categorised in English.

The methodological outline, like all the instructional materials described here, follows a bilingual text approach. This means, for instance, that in the detailed notes of a surgical operation (pp. 92-130 "Medical Round") the reader is shown on the left-hand page "Operation 8 - Excision of Cervical Glands" with a parallel Japanese text facing.

In Eizo's work, as in other materials investigated here, much emphasis is placed on practice with abbreviations - obviously an important feature of history -taking where speed of transcription is essential.

This feature of pedagogical materials together with the extensive use of abbreviation in code-switching (see section 5.4.2) leads to the question of whether medical abbreviation is used at all in Japanese. (I was unable to find Japanese abbreviations in the article by Yamamoto analysed in section 4.4.4). Abbreviation in medical Japanese may be hampered by the problem that Japanese has a very large number of synonyms and homophones. Alternatively, it may be due to stylistic convention. Or a combination of the two. But the marked absence of Japanese abbreviations in bilingual translation and the frequent use of English abbreviations may mean that Japanese writers find the latter useful in medical writing. The following example shows the practice of parallel text translation as well as abbreviations in English

with a full non-abbreviated translation in Japanese Kanji.

P.H. None contributory.

F.H. Father died of pul., tbc..
Mother 72, healthy.
2 siblings are in good health.

O.H. Working as a clerk at present time.

S.H. Alcohol (—), cigarettes 7, daily.

P.S. Patient is well developed, and has a good posture. Temp. 37°C. Pulse rate 76, volume good. Skin is moist.
Conjunctiva are normal, no cervical lymph nodes are palpable. Tonsils are not enlarged.
Chest is symmetric, and moist fine râles are audible by auscultation in the right mid-lung fild. Slightly dull to percussion at the same area. The left lung is clear.
Abdomen is normal.
W.B.C. revealed 12,000, hemogram showed shifting toward the left.

既往症 特記すべきことなし。

家族歴 父は肺結核で死亡。
母は72才，健在。
兄弟2人で健在。

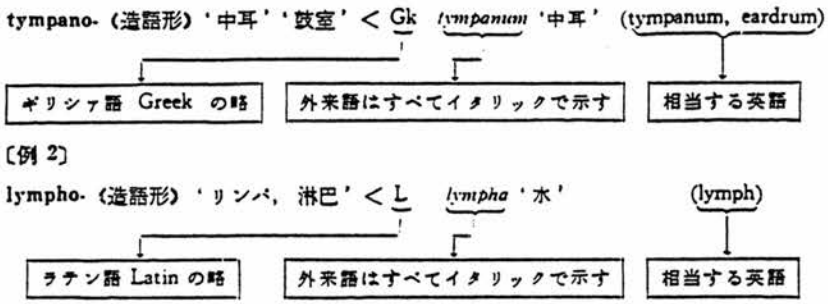
職業歴 現在 clerk として働いている。

嗜好 アルコール類は飲まず。
タバコは1日7本。

現症 患者の発育は良く，体勢も良く，体温は37°C，脈搏は76で量も良い。皮膚も湿潤している。
眼瞼結膜は正常，頸部リンパ腺は触れない。扁桃腺も肥大していない。胸郭は両側対称的であり，聴診上右肺中野に小水泡性ラ音があり，打診上やや濁音を呈している。左肺は正常である。
腹部所見は正常である。
白血球は12,000，血液像では左方移動が認められる。

The importance of medical abbreviations to the Japanese doctor is evident in Noda's comprehensive Igaku Ryakugo Jiten (Dictionary of Medical Abbreviations),(item H, 1972). There seems to be an assumption that abbreviations contain, in some manner, the 'core' medical vocabulary in English. To learn abbreviations, therefore, is to be on the road to mastery of essential vocabulary for medical communication in English.

The early sections of the book concentrate on the morphological structure of 'typical' medical terminology: the Graeco-Roman origins of word elements, prefixes and suffixes. The following is an example:



The dual emphasis upon the acquisition of essential medical vocabulary and mastery of abbreviations continues in Fujita Takuo's (1970) Eibun Byōreki no Yomikata (How to Read Clinical Histories) and Iriuchijima's (1979) Igaku Bunrenshu (Medical English Composition). Unlike the 88 short case-history presentations of the previous work, Iriuchijima deals with the writing of longer research reports. The author's aim is to:

> "give all those potential writers, from medical graduate students onwards 2 useful tools: the words and the sentences" (Iriuchijima 1979: iii).

What the author intends by this is clear from the organisation of the textbook. What are considered essential words (mainly verbal phrases, nouns and adjectives) in report writing are itemized alphabetically and then exemplified in sentences. The examples seem authentic but limited by being taken exclusively from the field of physiology (the writer is Professor of Physiology at Hiroshima University).

The unusual feature of this textbook for potential writers of medical English is that only limited

translation into Japanese is provided instead of the more conventional parallel text method. The cross-referencing of items make this a useful reference work for medical researchers. The selection of items includes many general English expressions - "number" and "conclusion", for example:

> "478 - They reached no decisive conclusion as to whether the agglutinogen has a protective effect or not.
>
> 479 - Some Italian investigations on aerobic capacity have been published but the number of subjects is too small to permit conclusions. (Iriuchijima 1979: 201).

This reference book approach to 'composition' is common to all the materials described here. It follows the traditional 'good medical style' manuals common among native speakers of English.

Kobayashi's preface to his work Igaku Eigo Kanyō Hyōgen Shu (Handbook of Medical English Expressions) sums up the rationale for this kind of instructional material. The textbook was compiled by:

> "a medical practitioner who realised that the solution for future scientists was a reference book filled with such expressions frequently used in medical papers, in dictionary form for easy comprehension and ready availability" (Kobayashi 1976: 2).

Once again, the basis for selection is subjective:

> "Since the author came to the United States in 1965 he has collected from medical journals

the idiomatic expressions that, hopefully, will help Japanese physicians" (Kobayashi: ibid).

Typical of the presentation in this book is the following:

hitsuyō jōken: 必要条件	**prerequisite (for)**
1. その除去が移植の必要条件である.	1. Its removal is a prerequisite for implantation.
hitsuyō ni ōjite: 必要に応じて	**as necessary**
1. 緩下剤は, 必要に応じてオーダーする.	1. Mild cathartics are ordered as necessary.
hōfu na: 豊富な	**rich (in), abundant**
1. 腺細胞はグリコーゲンに富み, アルカリフォスファターゼは少ない.	1. The glandular cells are rich in glycogen and low in alkaline phosphatase.

Some composition materials include a remedial grammar component such as the "common errors" section in Mizoguchi's (1976) Laifu saiensu no Eigo Ronbun (Writing English Papers in the Life Sciences). In fact, most of this work deals with problems of grammar and performance errors with considerable space given over to the usage of the definite article. Japanese, it sould be recalled, does not employ the grammatical determiners, definite and indefinite article. Their conventional role in English as noun-phrase markers "causes continuing confusion for the Japanese writer" (p. 90) Mizoguchi wishes to highlight for Japanese medical writers similar difficulties with personal pronouns. These difficulties stem both from grammatical usage and the stylistic debate that surrounds their use in the passive construction - for instance, the personal 'I' or the editorial 'we' versus the tendency to impersonalise scientific statement.

With a similar emphasis, Harada and Tamura's (1960) Igaku Ishi Yakugaku Eigo Ronbun Sahō (How to Write Reports - for Medical Doctors, Pharmacologists) is written, it is claimed, with medical students in mind: from 4th year to graduate school. Throughout the 10 chapters there are the familiar sections dealing with: Latin/Greek derivations of technical terminology, common writing idioms and an introduction to English grammar and punctuation section. Japanese parallel translation occurs throughout.

The most comprehensive of this type of multi-purpose reference work for medical writing is the massive textbook by Okuda and collaborators, Igaku Eigo no Kakikata (How to Write Medical English). Its purpose is to provide help in writing medical reports and journal articles in English. It ranges, in great detail, from how to compose titles and section headings to graphs and tables, and problems of grammar and punctuation. A notable component of Okuda's work provides model English sentences in medical categories such expressions used in abdominal examination or concerning respiratory function, for instance:

a)「胸郭は左右対称で肺は清明である」

The chest is symmetrical and the lungs are clear.

b)「両側肺下野には無数の湿性ラ音が存在し，打診上濁音を伴つている。又右側肺底部，後部では呼吸音が減弱している」

There are numerous moist râles heard over the lower fields of both lungs with dulness* to percussion and suppressed breath sounds over the base of the right lung posteriorly.

c)「発病の検査では胸郭の拡張は良好，打診では背部で左肩胛骨下，脊椎にすぐ近い部に軽い濁音を認める，呼吸音正常，ラ音は聴取されない」

Examination of the thorax shows good expansion, slight dullness to percussion over the posterior chest near the left subscapular area adjoining the spine. Breath sounds are normal. No râles are audible.

This 700 page work also contains a great deal of information for individuals who are going abroad, especially America. Details are given of the ECFMG examination and medical education in America, medical hierarchy and qualifications. There is a very useful section on letter writing (more comprehensive than in Parkinson's Manual for the Overseas Doctor) dealing with requests for article offprints, letters to the Editor, application for residencies and research positions etc.

Two points of interest in Okuda merit further comment. Firstly, the stylistic content of these letters frequently reflects Japanese cultural idiom or convention. For example, the over-formal usage in sentences reflects Japanese polite forms of address and the grammatical/ morphological honorific system in general. Consider the following:

> " I would be greatly obliged to you if you would be kind enough to let me know whether there will be an opening for me in your hospital.." (Okuda et al. 1969: 569).

The second point is that this book, in common with many other textbooks contains many grammatical and stylistic errors. This reveals an absence of proofreading by native speakers of English. The misuse of "constantly" for "consistently" is one example:

> "I have long desired to work on basic problems of cancer in a laboratory such as yours where original work has been constantly produced" (Okuda et al.: ibid).

In concluding this section on composition materials, what all these reference works indicate is the strong concern about the professional acceptability of Japanese doctors' writing. The composition problem, it seems, is not simply that of assisting doctors to become linguistically capable of writing in English but also of becoming able to manage an international style of writing suitable for publication. By this I refer to the need to conform to international conventions in medical writing such as: spelling, punctuation and abbreviation - now universalised in the 'Vancouver Style' accepted by over 50 major publications (see The British Medical Journal 1980: Jan.).

Secondly, there is the need to conform to some model of academic scientific writing which is both accurate and grammatically and stylistically sophisticated. The 'Vancouver Style' demands, for instance, rhetorical uniformity in the medical paper according to the IMRAD structure (Introduction, Materials and Methods, Results and Discussion).

It is towards the provision of a writing model that the translation of the well-known style manual for British doctors Good English (F. Roberts 1960) bears the title Smaato na Igaku Eigo (trans. Ishihara and Harada 1970). "Smaato" medical English refers, on the one hand, to grammatical accuracy or correctness - a constant theme in Japanese textbooks of whatever design - and, on the other hand, to academic style acceptable to scientific journals.

6.7.5 Reading Skills Textbooks

Books on reading skills improvement are two types: (i) those dealing with extended reading, and (ii) those dealing with medical terminology.

Ebizuka and Kaneda in (1978) Igaku Eigo no Yomikata (How to Read Clinical Histories) develop the notion of reading improvement would be helped considerable by the resolution of one paramount problem for Japanese doctors: medical terminology. They point to "terminological origins" as a key to this resolution noting that: "Medical English has an enormous amount of Greek and Latin words". That is the reason why "medical English is so very complicated indeed" (Ebizuka and Kaneda 1978: Preface). Strangely, the textbook makes no attempt to teach medical terminology. Rather, the first section deals with a list and explanation of key words found in medico-scientific papers (e.g. "conclude, confirm, continue, cure, deal, decrease, demonstrate" p.28). The following sections deal with medical style, and the remaining bulk of the book (pp. 60-340) displays extracts from medical journals - with parallel text in Japanese.

The feature distinguishing all of these doctor-produced medical readers for English study is their use of extracts from medical textbooks and journals. This has been a feature of the earliest as well as contemporary readers. Tomcyoshi's Igaku Eigo Kyohon (Medical English Handbook - 1962) was the earliest language textbook

found in this study and contains authentic extracts from the two types of sources mentioned. This textbook contrasts with other types of 'medical English' readers clearly designed for the medical schools and found in English departments. These books provide either fictional reading around a medical theme such as Richard Gordon's comedy Doctor in the House (1959) or medico-ethical topics such as Campbell's Moral Dilemmas in Medicine (1979). Berger and Mohr's A Fortunate Man and Ireland's Letters to an Unborn Child (1974).

Given the authoritative statements of Ebizuka and Kaneda quoted above regarding the basic importance of medical terminology in language learning, two textbooks were found to deal specifically with the problem. The first is a translation of Smith and Davis' work Medical Terminology (1979) - Puroguramu Manabu ni yoru Igaku Yōgo no Manabikata. This programmed learning textbook presents over 1,500 individual lexical items. Significantly, there is extensive use Japanese in exemplification in the programmed assignments. Consider, for instance, the introduction of the the particle "in" and the adjective "mental":

1185
人が自分自身を統御できなくなった場合，それを ment/al 〔　　〕　incompetency
と称することができる．またその人は mentally 〔　　〕(形容　incompetent
詞) であると云ってもさしつかえない．

1186
in は 〔*　　〕という意味もしくは 〔*　　〕を意味する接頭辞である．　中へ　否定

With so much inclusion of the first language to explain or contextualise the English items being presented it seems fair to question whether such a translation is sufficiently challenging to the learner. Note that the two English instructors at Kurume Faculty of Medicine do, in fact, employ parts of this book in their language course but prefer to use the (all-English) American edition than the Japanese annotated edition.

If the Smith and Davis textbook seems more of a reference work in its Japanese translation than its original, then Miano's alphabetically ordered terminology textbook provides an even more conventional reference book approach. Keito Teki ni mita Igaku Seibutsugaku Ryoeki no Eigo Jutsugojiten (English Idiomatic Dictionary for the Medical and Biological Fields - employing word frequency analysis). This textbook gives a comprehensive list of vocabulary classified according to suffix/prefix/word-root entries. For example, the student is obliged to find the meaning and usage of -opia as in 'nyctalopia". The entry provides the meaning and etymology (the latter being useful, perhaps, as a memory device) with an example:

-opia (接尾語) '眼の症状'<Gk *ops* '眼' + -ia '症状'
hemeralopia 昼盲 (= day blindness)<Gk *hemera* '昼間' + Gk *alaos* '盲' + -opia **nyctalopia** 夜盲症, 鳥目 (= night blindness)<nycto- '夜' + Gk *alaos* '盲'+ -opia **myopia***** 近視 (=short-sightedness)<Gk *muops* '近眼' **amblyopia** 弱視<Gk *amblys* 'かすんだ' + -opia **diplopia** 複視<diplo- '複' + -opia **emmetropia** 正視眼<Gk *emmetros* '正常' + -opia **presbyopia** 老眼, 老視< presbi- '老年' + -opia **asthenopia** 弱視<Gk *asthenos* '無力' + -opia **ametropia** 眼の屈折異常<Gk *ametros* '不釣合な' + -opia **dysopia** 弱視 (= dysopsia) (=dim vision)<dys- '異常' + -opia **gerontopia** 老眼<geronto- '老年' + -opia **xanthopia** 黄視<xantho- '黄' + -opia **anopia** 失明<a- '無' + -opia

6.7.6 Speaking and Listening

The authors of Igaku Eikaiwa no Laisensu (English Conversation Licence for Physicians) - Takashima et al. 1975 - summarise the rationale for this and other textbooks dealing eith oral-aural skills for the Japanese doctor and medical student:

> "The ability to read English will broaden the horizons of any scientist. However, the comprehension of spoken English and the ability to communicate verbally in English will greatly increase the effective participation of the scientist in person to person and international professional conference communication" (Takashima et al. 1975: Preface).

The 14 chapters (plus an appendix) deal with a wide range of clinical topics:

Igaku Eikaiwa no Laisensu differs from other textbooks by recognising that language improvement requires language practice. The book has components designed to facilitate learning: comprehension checks such as multiple choice, true or false exercises and cloze passages. Each chapter is prefaced by a list of medical words used in the dialogues. Typically, these are doctor-patient dialogues usefully contextualised by a pre-summary of the case problem.

Once again, there is a parallel Japanese text for the dialogues. In Takashima, however, the doctor-patient conversation in English seems to be a translation from the Japanese rather than the other way round. What emerges is a 'local form of English' (i.e. Japanese English). The context is American. For example, American patients throughout the dialogues constantly repeat: "Is that so?" This is clearly a translation of the common Japanese expression: "Sō desu ka?"

Another textbook which adopts the dialogue-based approach using the clinical encounter situation is Ishi no Eikaiwa (English Conversation for Doctors) by Murakami et al. (1974). This book, writes the authors, is designed: "for Japanese doctors who are going abroad to study" and contains "actual phrases used by medical doctors" (Murakami et al. 1974: Preface). In providing language practice, it adopts the traditional, behaviourist-inspired model of practice whose widespread acceptance and popularity in English language education in Japan was

mentioned earlier. Pattern practice - after the Michigan Method - is employed throughout Ishi no Eikaiwa. The rationale and structure for this specialized English textbook is modelled upon an earlier series of works by the same author and extensively used in the Japan Y.M.C.A. English schools. This, I believe, may be the first instance in which Japanese-inspired EMP materials link up with the wider context of English language materials development, educational theory and practice, in Japan.

Accompanying tapes require the learner to listen to the English dialogue "paying attention to the intonation and rythmn of the sentences which should be repeated several times." Following this, key grammatical and phrasal structures are selected and practised by listening to the Japanese then providing the English equivalent. An example of this format is the following from Lesson 6 - "Back Pain":

文型練習	第6課 背中の痛み
I. 筋肉を引きつったようですね。	
1. くるぶしをくじいたようですね。	
2. 軽い心臓発作を起したようですね。	
3. 脳いっ血だったようですね。	
4. 肘の関節がはずれたようですね。	
5. 専門医が必要のようですね。	
6. 今すぐ治療することが必要のようですね。	
7. 衰弱しているようですね。	
8. 風邪をひいたようですね。	

Pattern Drill	Lesson 6 Back Pain
I. Sounds like you pulled some muscles.	
1. Sounds like you sprained your ankle.	
2. Sounds like you had a minor heart attack.	
3. Sounds like you suffered from a stroke.	
4. Sounds like you dislocated your elbow.	
5. Sounds like you need a specialist.	
6. Sounds like you need immediate treatment.	
7. Sounds like you are run down.	
8. Sounds like you have caught a cold.	

Ishi no Igaku Eikaiwa (Clinical English Conversation), unlike Murakami's fluency-based approach, uses the dialogue primarily as a vehicle for channeling cultural information about academic life in the United States. In Lesson 1, for example, Dr. Tanaka, a young physician wishes to go abroad for further medical training and visits an American Cultural Center in Japan to obtain the necessary information. The extensive notes accompanying this dialogue deal largely with two areas: (i) rhetorical and grammatical aspects of the dialogue, e.g. forms of greeting, assurance, leave-taking, polite assertion, and (ii) practical information regarding internships, residencies, the American Board of Certification, the ECFMG examination, remuneration, and so on.

Unlike virtually all Western EMP materials which focus narrowly on subject-specific interactions (Sandler's Medically Speaking, 1983, is a recent example), it is an interesting feature of this and other EMP textbooks for Japanese doctors that they include much practice in general social skills, as well. Consider, for instance, the following chapter types:

- "Cafeteria and Snack Bar" (Lesson 11)
- "Dr. Tanaka in a Relaxed State Talking to Nurses" (Lesson 12)
- "Dr. Tanaka tries to Have a Date with one of the Nurses" (Lesson 18)
- "Dr. Tanaka Invited to a Christmas Party Given by a Patient's Family" (Lesson 23).

This strongly 'cultural' emphasis might suggest that the overwhelmingly linguistic focus of Western EMP materials fails to satisfy all the needs of many Japanese doctors.

There is, also, in this textbook a recognition of the academic skills required for study abroad as illustrated by chapters dealing with:

- "Medical Licensure and Speciality Board Examination" (Lesson 24)
- "Case Conference" (Lesson 25)
- "Utilisation of the Medical Library" (Lesson 5)

as well general interest and problem area topics for the Japanese doctor:

-"Dr. Tanaka Learning Abbreviations used in American Hospitals" (Lesson 4)
-"Dr. Tanaka Visiting Medical School to compare Undergraduate Education in the U.S.A. with that of Japan" (Lesson 6).

The wide range of emphases in the textbooks reviewed here, i.e. social skills and study skills, is apparent also in a textbook co-authored by the only native speaker author encountered thus far. Isha no Tame no Jitsuyō Eikaiwa (English Conversation for Physicians), 1972, is by a British doctor who had worked in a Japanese hospital. Cassidy and Takashi adopt a virtually identical textbook scenario to that of Okijima's Isha no Igaku Eikaiwa (quoted above):

".. a number of episodes in the life of Dr. Saito, a fictitious young Japanese physician, graduate of a Tokyo medical school who has

> taken advantage of the opportunity to spend some time working and studying in the United States. His experience during one week attached to a large general hospital are fairly typical of many who have fcllowed the same path" (Cassidy and Takashi 1972: Preface).

Again, it is noted that this scenario allows the learner to sample a variety of communicative possibilites both within and outwith the strictly 'medical' context including: "Lunch Time" (Lesson 7), "Visit to the Library" (Lesson 5), together with other information regarding the usual topics, e.g. ECFMG examination, registration in the U.S.A. etc. Such details must provide for the average Japanese medical reader professional interest and curiosity. It should be remembered that study abroad is a highly regarded and sought-after accomplishment among the medical profession in Japan.

6.7.7 Medical Meetings and International Conference Skills

A feature absent from those textbooks dealing with oral-aural skills improvement, is the communication skills required for participation in medical meetings in which English is used. Cassidy and Takashi (above) stated that:

> "The doctor who can speak fluently at an international meeting is at a tremendous advantage" (Cassidy and Takashi, ibid: Preface).

There is, however, no specific practice provided in their textbook.

Aoki Teruaki's detailed work Shin Kokusai Igakkai no tame no Eikaiwa (English Conversation for the International Medical Congress) is unique in being solely concerned with this area of communication. Nine lessons focus upon aspects of conference participation. Chapters are situationally organised and staged according to the general sequence of conference events:

"Lesson 1 At the Registration Desk
Lesson 2 Opening Ceremony
Lesson 3 Free Paper Presentation
Lesson 4 Questions and Answers
Lesson 5 Panel Discussion
Lesson 6 Special Lecture
Lesson 7 Sessions
Lesson 8 General Assembly Proceedings
Lesson 9 Closing Ceremony"

Aoki Teruaki 1983: Contents).

The methodology of presentation is the (by now familiar) English dialogue - in this case speeches, etc. - with facing Japanese text, selected "key words" and a panel insert for "useful expressions." The content of all the addresses and discussions is actually taken from a congress held in Japan in 1969, the "First Asia Oceania Histocompatibility Conference."

The authenticity of the conference data is further enhanced by an accompanying cassette tape which, unusually, contains live recordings of several presentations. (The sound quality of these authentic recordings is variable). But there is another notable

feature of this audio material. Included among the presenters are several non-native speakers of English as well as those speaking English regional varieties: German, North American (Canada and the U.S.A.), Chinese, French and Russian varieties of English.

Interestingly, whilst a Japanese speaker of English can be heard, no British English variety is included in these materials. Whilst this may be because no speaker of a British English variety attended the conference, I suggest that the absence may reflect the trend away from this formerly prestige variety of English towards the more ubiquitous and increasingly popular American variety.

What Aoki and several of the textbooks reviewed here have clearly shown is a strong tendency towards American English and away from the British variety - including spelling conventions, technical idiom, voice recording, and cultural scenarios. Significantly, the British-Japanese authors of English Conversation for Physicians - Cassidy and Takashi, 1982 - place their dialogue scenarios in the hospitals and medical faculties of the United States and not those of Britain.

6.7.8 Conclusion

1. Very few materials contain even the slightest opportunity for language practice of the items presented in a unit or chapter.

2. The emphasis appears to be on the giving of information whether linguistic or cultural and not that of practice. The mode of language learning presented here is that of learning about the language and on the display of language date from the field of medicine.

3. There is parallel translation in Japanese of every piece of English to appear in the textbook. One must ask whether such a convention discourages real effort on the learner's part.

4. The I.P.A.. system of phonetic transcription is only marginally employed. In so doing, katakana is allowed to dominate and is used even for words which are already borrowed into Japanese, e.g. 'lipoproteins' becomes リポプロテイン("ripopuroten") and 'thalessemia' becomes サラセミア ("sarasemia") - see Ebizuka and Kaneda 1978.

5. The "key sentences" approach to medical writing is highly favoured. This confirms earlier observations about the stylistic organisation of technical manuscripts whereby Japanese writers freely borrow words and whole sentences from native-English published papers for use in their own manuscripts.

6. There is one non-linguistic aspect with possible implications for the motivation of women medical students learning English. Almost none of the twenty four textbooks and accompanying materials feature a woman character. There is no woman doctor or patient in any role. Murakami et al. (1974) does feature a female nurse

in his chapter "Dr. Tanaka Tries to Have a Date with one of the Nurses" (Lesson 18). Nurses, even in these situations, assume non-professional roles. The failure of textbooks to reflect everyday life may lead to lack of interest among women learners who are habitually unable to identify with the textbook roles presented.

7. All 24 textbooks were authored by Japanese doctors. The professional expertise of applied linguists and language teachers has not been brought to bear on teaching materials. Although teachers of English are absent from the field of materials writing Japanese doctors have attempted the task.

The striking fact of teachers' non-involvement in the production of EMP materials may reflect a fear of transgressing stereotyped role boundaries. Nakane (1979) has pointed to the strict social separation of occupational roles in Japanese society. Among teachers there is unease when dealing with medical topics.

8. A very strong tendency towards the use of American English can be clearly observed. This marks a shift in Japanese custom - away from the prestige British model.

9. Mastery of technical vocabulary is vigorously pursued in these materials and it must be assumed that medical terminology continues to have a 'high profile' for medical learners throughout their careers. This seems to contradict the opinions of some ESP specialists - that the technical terminology is progressively less important especially for advanced subject-specialist learners (see Strevens 1981 and Maher 1984).

6.8 Extent and Relevance of English Language Education during and after Medical School

6.8.1 Introduction

In this section, the results of statistical analyses are presented from two areas of investigation. Firstly, English language training during medical school: the importance attributed to language study by students and doctors. Secondly, the career importance placed upon English by practising doctors.

6.8.2 Student Attitudes

Students were asked to rank responses concerning what specific features of English studies were thought to be important. The answers seem to favour some syllabus components of language classes over others. First of all, "Eikaiwa" (spoken English) is a study priority of students. Fig.6.4 shows that a majority (33.1% and 37.9%) regard conversational skills as either important or essential.

FIGURE 6.4 Student Attitudes to the Study of Spoken English

1. **** 4.4% (13)
   Not important

2. ********** 24.7% (23)
   Somewhat important

3. ********** 33.2% (98)
   Important

4. ********** 37.6% (111)
   Essential

(N=295)

Figure 6.5 shows almost the same distribution of responses towards "Eisakubun" (writing/composition). It should be recalled that composition, along with reading, constitute the main binary division of the English curriculum. This division applies not only to medical education but reflects the overall English language curriculum in Japan at secondary and tertiary levels.

FIGURE 6.5 Student Attitudes to the Study of English Composition

1. ***** 5.1% (15)
   Not important

2. ********** 24.7% (73)
   Somewhat important

3. ********** 36.7% (108)
   Important

4. ********** 33.3% (98)
   Essential

(N=294)

Results dealing with reading and composition contrast with responses of students to the question of learning about foreign culture

Cultural learning is a substantial component of English study in medical school. In practice, it purpose is to gain insight and information on the cultural life, customs, conventions and traditions of British and American societies. The study of foreign culture has

itself a long pedagogical tradition in Japanese society starting from the abrupt opening-up of Japan to the West by the Meiji Restoration (c.1870). "Jōhō" (information) has been intensively sought after in all areas of Japanese cultural life. It is this cultural aspect which is being referred to in students' replies.

Figure 6.6 shows that less than half of medical students (37.8%) regard learning about foreign culture as either important or essential.

FIGURE 6.6 Student Attitudes to the Study of Foreign Culture

1. ********** 16.3% (48)
   Not important

2. ********** 45.9% (135)
   Sometimes important

3. ********** 26.9% (79)
   Important

4. ********* 10.9% (32)
   Essential

(N=294)

However, the data do show some approval of this content component in English classes. Related data regarding the importance of literary studies/learning evidence a strong disinclination towards literary-based learning. It must be recalled that as a content component of reading and writing classes, the study of foreign

literature is the major emphasis. Figure 6.7 shows that only 3.7% of the total view this aspect of the syllabus as essential and 11.5% as important. The large majority - a combined total of 84.7% - rank literary appreciation at the lower end of the scale - either sometimes important or not important.

FIGURE 6.7 Student Attitudes to the Study of (British and American) Literature

1. ************************ 30.5% (90)
   Not important

2. ** 54.2% (160)
   Somewhat important

3. ********** 11.5% (34)
   Important

4. **** 3.7% (11)
   Essential

(N=295)

The data contained in Figure 6.8 strongly support the view that medical students are most concerned about, or more favourable towards, the improvement of reading skills than any other single component of English language study in medical school.

Over 50% of the replies (52.2%) regard the improvement of reading skills as an essential part of English studies whilst a further 34.6% view it as "important".

FIGURE 6.8 Student Attitudes to the Study of Reading

1. *** 2.0% (6)
   Not important

2. ********* 11.2% (33)
   Somewhat important

3. ************************** 34.5 (102)
   Important

4. ************************************ 52.5% (154)
   Essential

(N=295)

Generalising from these data I suggest that these positive attitudes towards reading skills improvement (attitude being a variable commonly associated with motivation) has important implications for the teaching for the teaching of English. Students' positive inclination towards reading improvement is mirrored in other data on listening skills.

FIGURE 6.9 Student Attitudes to the Study of Listening

1. **** 5.4% (16)
   Not important

2. ********* 11.2% (33)
   Sometimes important

3. ***************************** 37.6% (111)
   Important

4. ********************************** 45.8% (135)
   Essential

(N=295)

Almost one-half of medical students regard classes which teach listening skills as essential and a further thirty-seven percent regard these classes as important. This is an interesting result particularly because it is this feature of English study in medical school, ("Eikaiwa"), which is likely to receive the least formal emphasis in the curriculum. (Note that from 1983 Shimane Medical University instituted a language laboratory option into its English language syllabus. I did not see this facility used by any student or staff during my period of observation).

It could be argued, conceivably, that listening classes are viewed so favourably by students precisely because they are so scarce and not because aural comprehension is a valued skill by itself. However, it is more likely, I think, that these results support the view that - together with the strongly positive attitudes towards "Eikaiwa" — spoken fluency in English (i.e. speaking and listening) is highly valued among medical students in Japan.

Undoubtedly, listening - a neglected aspect of language study in medical school - is of greater perceived importance that the current emphasis (as the curriculum materials confirm) upon literary and cross-cultural studies.

6.8.3 Doctors' Attitudes

As a gauge of post-medical school attitudes to earlier language learning experience, doctors were asked about the usefulness of English classes at medical school for their present working life.

Figure 6.10 shows a strong tendency of doctors to regard the English learned in medical school as either not useful at all or of restricted use only.

FIGURE 10 Usefulness of English Classes for Doctors' Working Life

1. ********** 33.1% (39)
   Not relevant

2. ********** 52.5% (62)
   Sometimes relevant

3. ******* 10.2% (12)
   Important

4. *****
   Essential

(N=294)

No significant differences emerge at the .5 level regarding variables such as: type of institution, sex, basic versus clinical medicine. However, cross-tabulation of data according to the age of the physician (20-40+ yrs.) results in some significant differences.

FIGURE 6.11 Usefulness of English Classes for Doctors' Working Life - according to Age

	20-40yrs	40+yrs
1. Not relevant	37.1% (36)	13.0% (1)
2. Somewhat relevant	49.4% (48)	60.8% (14)
3. Important	7.3% (7)	21.7% (5)
4. Essential	4.2% (4)	4.3% (1)
N=120	Mean Rank=56.0	73.9
Z -2.4941	Probability 0.0126	(Mann-Whitney U)

Figure 6.11 shows a positive ratio between the increasing age of the physician and agreement with the efficacy or usefulness of English studies in medical school. One has to look at this outcome with care and not generalise too much. I am assuming that the emphasis of current language education is more or less the same as that of English classes 40 years ago. But I have been at pains to stress throughout this section the organisational homogeneity and historical continuity of Japanese education (despite the re-organisation brought about during the American occupation and the resulting 1949 Imperial Rescript on Education). I have also pointed to the conservative and deeply-held assumptions of Japanese teachers of English. (There are also the supportive historical descriptions of Takashima 1980, Doi 1979,

Nakamura 1980). It is, therefore, reasonable to suppose that there have been no major curriculum changes in the last 40 years.

What emerges from these data is the strong disaffection among younger doctors regarding their English studies. Almost forty per cent regard their English language training as irrelevant. Conversely, older doctors recognise the usefulness of the broad-based, humanistic approach in language education. A supporter of the EMP approach would hasten to add, presumably, that older doctors' support does not logically imply a rejection of a skills-based, medical English curriculum, merely support for the status-quo.

Another question deals with the role of English beyond medical school: the extent to which English is a means of career advancement (i.e. professional advancement such as the gaining of medical appointments, etc.). The results shown in Figure 6.12 suggest that English is viewed as a useful tool of career mobility by a substantial number of doctors (almost one-half of those sampled).

FIGURE 6.12 The Role of English in Doctors' Career Advancement: does knowing English help?

1. ***** 5.8% (7)
   No, not at all

2. ********** 23.3% (28)
   A little

3. ********** 44.2% (51)
   Definitely

4. ********** 26.7% (32)
   Not sure

(N=118)

Comparing doctors across age categories no significant differences emerge at the conventional level. Neither is there evidence of a statistical difference between the sexes or between private/public or basic/clinical medicine.

Figure 6.13 shows that over 50% of hospital doctors in the public and private sectors regard knowledge of English as a factor in career advancement. This is a surprising result. Whilst English is not a practical tool in hospital/ward interactions it is apparently perceived as a useful professional asset.

FIGURE 6.13 The Role of English in Doctors' Career Advancement - according to Work Setting

	Private Fac. of Medicine	Public Fac. of Medicine	Private Clinic	Public Clinic
1. No, not at all	25.0% (5)	1.4% (1)	6.2% (1)	0.0% (0)
2. A little	30.0% (6)	27.8% (20)	0.0% (0)	20.0% (2)
3. Definitely	15.0% (3)	47.2% (34)	68.7%(11)	50.0% (5)
4. Not sure	30.0% (6)	23.6% (17)	25.0% (4)	30.0% (3)

(N=118)

The 'professional asset' factor of knowing English may relate as much to the social prestige that a knowledge of English confers upon the individual as to its instrumental value. In this sense, English serves an important domestic function as a means of professional identity or definition with implications for occupational advancement.

6.9 The Study of English and Attitudes to Reform

6.9.1 Doctors' Opinions on the Purpose of English Study

Doctors' free responses regarding the purpose of studying English have been categorised into four types: value-oriented, communicative-goal oriented, language improvement-oriented and reformist-oriented.

In the first type, there is the association of the study of English with hopes about the gradual internationalisation of man (e.g. "English is a language of the wider world", "English is a means with which to bring all peoples together"). In this sense, I have categorised doctors' attitudes as value-oriented.

Instrumental and language improvement-oriented attitudes are views of language which see English as serving various degrees of public and private ends.

Reformist attitudes are typically represented by those who express negative views about the present system of teaching English. They express, therefore, what is thought to be its correct purpose.

This scheme allows us to make certain provisional conclusions about doctors' perceptions of the function of English. Table 6.7 confirms that most doctors stress the instrumental value of English study. 70% of all replies point in this direction. The study of English should enable the learner to talk about medicine, write medical papers, read and gain access to technical information etc. Notable is the explicitly emphasised link between

language study and "medical purposes".Consider statements such as:

- "Medicine is an international field. There are no frontiers in medicine and English helps to keep things moving".
- (The purpose of English study is) "to promote peace and understanding"

Certain negative feelings towards the English teaching system also emerge. Sometimes, respondents provide moderately-stated alternatives such as:

- "The curriculum needs to distinguish between exam-purpose English and English for communication"
- "We should call our English classes 'English for Research'"

Five replies were severely critical of the present emphasis on literature study. One doctor wrote:

- "What do I remember of English classes? Faulkner's 'The Sanctuary'. Ten years of English and that's all I came out with"

Overall, doctors' attitudes are very much alike. There is strong dissatisfaction with the existing purpose and organisation of English teaching - together with the suggestion to substitute what the applied linguist would recognise as English for academic purposes. According to doctors, the study of English should be motivated above all by "communication needs" - in one respondent's words.

TABLE 6.7 Doctors' Opinions on the Purpose of English Study

Opinions	% of total responses	
International/value-oriented	%	(N)
1. English is an international language. It's really important to be competent in it	3.3	4
2. The school has to train you for the international situation	3.3.	4
3. Medicine's an international field and English is essential for keeping things moving	1.6	2
4. Knowing English helps to raise the level of Japanese medicine	1.6	2
5. The purpose is cultural. To learn about how foreign people behave, etiquette and so on	0.8	1
6. To promote peace and understanding in the world	0.8	1
7. To show up or even break down the homogeneity of Japanese society	0.8	1
8. To facilitate international cooperation like 3rd World medical projects	0.8	1
Total for category	11.6	16
Instrumental/goal-oriented		
1. To help me talk and discuss with foreign doctors freely and accurately	22.3	27
2. To help me read medical papers in English	14.8	18
3. To help me write medical papers in English	14.0	17
4. To help me speak (ask and answer questions) in English at medical conferences	10.7	13
5. To enable me to listen and understand accurately	4.1	5
6. To get access to published information in my field	2.4	3
7. To find out about medical life abroad. What's it like to be an American or European doctor ?	0.8	1
8. To learn <u>how</u> to exchange medical information. It should be a kind of study of communication.	0.8	1
Total for category	69.9	84

Remedial/language-repair oriented	%	(N)
1. Japanese are really poor at conversation	0.8	1
2. Japanese are particularly poor at formulating their own opinions.. a serious defect for a researcher. English study should us to correct this	0.8	1
3. My writing is so bad that proof readers can never understand what I'm trying to say	0.8	1
Total for category	2.4	3
Reformist/purposeless-in-its-present-form oriented		
1. You get lectures on English literature. Totally useless. No practice in using English	4.1.	5
2. Got to get away from learning word lists habit	0.8	1
3. We need to increase the number of native speakers on the English staff	1.6	2
4. Nobody seems to know the best teaching method	0.8	1
5. Throw out German ! We don't need it anymore	0.8	1
6. Need to distinguish between exam-purpose English and English for medical communication	0.8	1
	0.8	1
7. Need to learn ordinary English as well as medical English in ippan kyoiku	0.8	1
	0.8	1
8. Medical school English is totally impractical	0.8	1
9. Too much emphasis on grammar study. What for ?	0.8	1
10. Couldn't we learn some subjects in English, like Mathematics or Physics ?	0.8	1
11. Nit-picking translation. That's the stuff of English classes in medical school... system needs a complete overhaul.	0.8	1
12. Doctors ought to be teaching English. Training students how to read medical papers etc.	0.8	1
13. We should rename our English classes to something like 'English for medical research'	0.8	1
Total for category	16.1	20

Overall total N= 123

Notes: 1. Each statement is a verbatim reply from one doctor.

2. Each separate statement represents a closely similar view expressed by other respondants. The number of times this opinion has been expressed is given in the right-hand column.

3. Total for each category of responses is given together with percentages of the overall total.

6.9.2 Students' Opinions on Curriculum Improvement

Doctors' responses contrast with those of students when asked a similar question: "Do you have any suggestions to offer about how English language education in medical school could be improved?"

A content analysis of 253 statements contained in these open-ended responses were then categorised according to the following scheme: (1) specific purpose versus general purpose language learning, (2) the problem of teachers and methods of learning, (3) curriculum organisation problems.

Although, like the doctors, students seem motivated to learn English as a result of practical communication needs, some students also point to the cultural and aesthetic importance of learning the language (see Table 6.8). 16% of the total specifically demand a more specialised teaching approach tailored to their needs as medical students ("More medical English", "All the non-medical stuff like literature is irrelevant"). In category 1, 9% regard medical English as unnecessary, a "façade", a "show-off" ("kakkō tsukeru dake"). A knowledge of English is important beyond the narrowly specified needs of medical communication rather, as the mark of a liberal education ("kyōyō wa taisetsu na"). One student claimed that medical English instruction is not practicable because "we don't have medical knowledge now" ("Igaku chishiki ga nai").

In category 2, 16 students (6.3%) object specifically to the prevailing teaching method of English-Japanese translation. One student remarks:

- "medical words can't be translated into Japanese and that's why we didn't learn them in English class"

12 students (4.7%) criticise the quality of teaching in general terms ("the lecturers are bad, the teaching poor") and in other statements specific reasons were advanced, such as: the non-use of visual aids (video, film, etc.), lecturers' preoccupation with their own "hobbies" or research interests, the excessive use of tests, the over-use of Japanese (for explanation in the classroom), the emphasis on rote-learning. Also mentioned were phenomena which, like the above points were confirmed by my own observation in the language classes of medical college, such as lecturers' practice of choosing an individual to answer a question and allowing the rest of the class to 'switch-off' or pay little attention to the interaction.

In category 3, the largest proportion of students (19) complained that learning English in medical school was a mere continuation of high school methodology and course content. There is "nothing new or different". A further 19 (7.5%) expressed unhappiness with classwork - "a turn-off" ("mō akite shimaimasu"). 5.1% demanded more hours, 4.3% smaller classes and some students wanted

TABLE 6.8 Students' Opinions on Curriculum Improvement

Opinions	% of total responses	
'Specific purpose' vs 'general' language learning	%	(N)
1. 'More medical English'	14.2	36
2. 'All the non-medical stuff we do, like literature is irrelevant'	8.6	22
3. 'Kyōyō is important not just 'medical English'. We are human beings too. We need cultural input.	6.3	16
4. 'We do n't need 'special' English now. We don't need to go to medical conferences and so on'	3.1	8
5. 'We should use medical textbooks and journals in class'	3.9	10
6. 'The 'medical English' class is a 'show-off'. If English is so important why is the licence exam in Japanese ?'	1.1	3
7. 'How can we read medical stuff when we haven't studied medicine yet ?' (2nd yr.)	.7	2
8. 'We don't need English'	0.3	1
Total for category	38.2	98
The problem of teachers and methods of learning		
1. 'English-Japanese translation is useless. We just memorise the Japanese translation for exams.'	6.3	16
2. 'The lecturers are bad. The teaching is poor'	4.7	12
3. 'Endless analysis and interpretation of English texts are a waste of time'	1.5	4
4. 'We need <u>easier</u> English. I can't understand the native speaker lecturers'	0.7	2
5. 'An English teacher with a good knowledge of English is essential'	1.9	5
6. 'We need more up to date reading materials like <u>Time</u> and <u>Newsweek</u>'	0.7	2
7. 'Classes are ok. We do plenty of reading.'	0.7	2
8. 'How come we never use video or films ?'	0.3	1
9. 'Even the foreign teacher can't teach'	0.3	1
10. 'Teachers just teach us their hobbies'	0.3	1
11. 'It's not a problem of teaching method. We just don't need to speak English.'	0.3	1

12.	Aren't there other ways of teaching English like using the telephone or something ?	0.3	1
13.	They pick someone to answer a question and no one else pays any attention. It's the wrong way	0.3	1
14.	Memorisation is pointless. Even memorisation of medical terms is pointless	0.3	1
	Total for category	18.6	61

Curriculum organisation problems / motivation

1.	It's like being in high school again. Same old course, same teachers, same system	7.5	19
2.	Learning in class is hopeless.. a turn-off.We're all on our own ..... it must interest us more	7.5	19
3.	Smaller classes please ! How about group work ?	4.3	11
4.	We need more hours, more time to learn English	5.1	13
5.	English ought to be studied in 4th and 5th year	3.5	9
6.	More foreign instructors	2.7	7
7.	English only in class... too much Japanese	1.9	5
8.	Too many tests ('shiken bakkari' tr.)	1.1	3
9.	Do away with German !	1.1	3
10.	Integrate the English course and medical course	0.7	2
11.	It's too late to study English..we're too old	0.3	1
12.	Abolish English classes !	0.3	1
	Total for category	36.0	94

Overall total N= 401

Notes: 1. Number refers to the number of times this point has been mentioned in students' replies.
2. Each statement listed is a verbatim reply of one individual.
3. Each quotation is meant to be representative of a closely similar view expressed in other responses.

English studies to continue beyond the pre-medical phase into 4th and 5th year (3.5%). There were objections to excessive testing, the use of Japanese in class, and the need to study German.

6.9.3 Discussion

Summing up the results of both sets of responses from doctors and students, what emerges from these replies is that they display strongly instrumental attitudes (70% in the case of doctors) towards English. Attitudes towards the need for English study seem to be very favourable generally.

About what ought to be done to improve the present language teaching system the view seems to be that English language teaching is not simply a matter of cultural and educative exercise (although the "kyōyō" element is emphasised by some students) but should be viewed as part of the professional training process. This might involve a more rigorous curriculum component designed to prepare the student for the academic skills required for effective medical training (especially reading and writing).

CHAPTER SEVEN

DISCUSSION AND CONCLUSION

CHAPTER SEVEN

Discussion and Conclusion

7.1 The Widening Role of English in Japanese Medicine

From observation of the development of English in Japanese medicine, particularly the penetration of English in medical publication, we can conclude that English has played an increasing role as a language of medical communication among the Japanese medical profession.

There has been a significant increase in English language article output in Japan during the past twenty years. Japan now publishes more medical articles in English than either Canada or Australia and is the fourth largest source of medical publication in English in the world - after the U.S.A., Britain and Germany.

English has considerable intranational use in Japan in the sense that local 'house journals' of medical schools, research institutes, and hospitals do publish either partially or entirely in English. As the quality of Japanese research has improved since the 2nd World War, international, joint research has increased and Japanese scientists appear to be seeking a wider audience and recognition for their research.

This movement towards greater use of English takes place against the background of the sociology of knowledge. Bernal's classic Social Function of Science (1939) proposed that the function of periodical literature is

the communication of information. The present study confirms Dannatt's observation (commenting on Bernal) about:

> "the indifference of science to linguistic or national barriers and the need of practitioners at all levels for the data, information and techniques, conceptual frameworks and new ideas that the literature conveys" (Dannatt 1974: 15).

The political and cultural influence of the U.S.A. has been a major factor in the spread of English in the medical domain in Japan. The U.S.A. alone publishes almost 40 per cent of the world's medical research. The American occupation of Japan and the subsequent re-orientation of the country's economic, cultural and educational structure towards English-speaking America is clearly reflected in the changes in the changes in language policy or preference in Japanese medical publication. Just as the military occupation provided Japan with a linguistic, political and economic role model, American medicine also provides a powerful influence on the present-day state of research and development in Japanese medicine. Many Japanese go to the U.S.A. for postgraduate medical research or to attend professional meetings.

The overwhelming tendency towards American medical practices and American English in Japanese EMP literature also indicates a shift away from British English and European medicine. This confirms the conclusions reached, independently, by the few British medical scientists with

experience of Japan. Johnstone, for instance, asks the question "Why has there been so little Anglo-Japanese cooperative research?" The answer is based on both economic and historical reasons:

> "For one thing, there have been few links historically between Japan and Britain. Before the Second World War, Japan looked to Germany to train its medical researchers, after the war to the U.S..Thus, there are Japanese-American and Japanese-German cancer societies, but no Japanese-British cancer society. For another, the U.S. has long been pouring massive amounts of money into cancer research so funds have been available for Japanese to go and study in the U.S. And because Japanese scientists operate on the basis of individual networks built via personal contact and handed down from generation to generation, there is no infrastructure on which cooperative cancer research between Japan and Britain could now develop" (Johnstone 1985: 31).

Another medical researcher has offered a more personal reason for the lack of contact between Japanese and British medicine:

> "Outside the clinical field, Britain has few institutes sufficiently exciting or with sufficient funds to make it easy for Japanese scientists to go there. But the main reason we don't have more contact is that British scientists aren't interested in Japan" (Moore 1985: 31).

At the same time as the spread of English there is a significant decline in the proportion of German used as a vehicle for research. This is suggested by the shift in research consultation from German to English language articles.

Although it is possible to differentiate, as does Index Medicus for instance, between articles "in Japanese" and articles "in English" the practice of medical writing in Japan is a more complex phenomenon. There is considerable mixing between the two languages in articles designated as Japanese. English frequently occurs in the title, key words, abstract and illustrations of an article. The extent of lexical borrowing and switching of whole sections of Japanese medical discourse into English suggests that code-switching occurs not only in verbal interaction - a well-documented phenomenon - but also in the highly formal and conventionalised context of written scientific discourse.

English also plays a role in medical advertising. It symbolises modernity and professional chic, and is employed in eye-catching slogans and well as in actual product names.

The instrumental role of English is further illustrated by the large intake of foreign publications by Japanese medical school libraries. In Shimane Medical University, for instance, there are more foreign books and journals than Japanese. Of the foreign books almost ninety-seven per cent are in English and only two and a

half per cent in German. These findings support the more general claims made about the spread of English world-wide, notably by Conrad and Fishman who have stated that English is:

> "the most viable medium through which ideas may be presented to a world-wide audience" (Conrad and Fishman 1977: 56).

The spread of English in medicine in Japan and its role in the professional training process are, of course, dual aspects of the same phenomenon of language spread. In this study, I have tried to outline both from a broad sociolinguistic viewpoint and especially by means of data drawn from a single profile (Japan) the extent to which English is used and valued in international medical communication. I have tried to show that a new situation has emerged whereby English is neither the vernacular (e.g. a local variety of English) nor an official medium of education. In spite of this, English has become an <u>intranational</u> language in a distinctive sense. English does not occupy the entire field of medical writing - anymore than Japanese does. Both languges, rather, percolate back and forth through medical publications in different quantities and in different patterns. A cline of accessibility seems to exist, therefore, indicating the degree to which information contained in published research becomes accessible to the non-Japanese reader. Medical information, therefore, is regularly processed in English for domestic, as well

as international 'consumption'. The other intranational phenomenon is that English is, to a limited extent, a practical medium of the professional training process.

There is a tendency for Japanese doctors in the field of basic medicine to write in English more than doctors in clinical medicine. Noticeably, basic medicine journals in Japan (physiology, biochemistry, etc.) tend to adopt an all-English publication policy compared to the more assorted English/Japanese language policy of clinical publications. This phenomenon can be accounted for in the following way. Research in basic medicine is expensive, time-consuming and labour intensive. When researchers are ready to publish their results, sometimes only after several years of work, they seek maximum readership. This necessitates publication in English to facilitate the widest exposure of their research. Clinical writing, by comparison, is able to focus upon brief reports of clinical phenomena such as interesting case histories in local hospital situations. Such reporting does not require an international audience and is often published in Japanese.

Only half of the doctors sampled have attended medical meetings in English and, surprisingly, three-quarters of all doctors expressed reluctance to attend meetings conducted in English. Most likely, this reluctance is a form of inhibition caused by potential difficulty in understanding the proceedings and participating in discussion. Public university doctors

were very much more reluctant than private university doctors to take part in such meetings. This seems to support the view that professionals in the public (state) university sector are more conscious of saving 'face' and of being seen to perform well in the communicative use of English in meetings than doctors in the private sector. Most university and hospital doctors (sixty four per cent) would like to present a paper in English. This seems to be professional goal for many doctors - a mark of success. As a symbol of professional standing, the presentation of work in English is apparently more sought after the older the doctor is. This matches other explicit statements of almost seventy per cent of doctors that English is, in fact, a useful tool in career advancement.

Internationalisation of medical research has had a 'domino' effect on the spread of English in Japanese hospital practice. The need for a global epidemiological data base, for instance, has meant that a modern university hospital such as Shimane Medical University's now files all patients' histories in English by computer. This in turn obliges Japanese doctors in that institution to write case-history notes during consultation in English. The gradual computerisation of medical recording systems in Japan - although at present in only a small number of institutions - may have a profound effect on the spread of English and the communicative demands made upon the Japanese doctor especially in the area of writing skills.

7.2 The Importance of English in Medical Education in Japan

English language textbooks are a prominent feature of the medical training process. The frequency of reading in English among students increases to a peak in the fifth and sixth year of study although no help with reading in English is formally available to students - English classes having finished in the second year.

English is widely thought by students to be important for medical lecture comprehension and important as a tool for reading medical literature. English is used extensively during medical lectures in accompanying literature (i.e. hand-outs). The lecturer is also seen to mix Japanese and English technical terminology and may occasionally set questions in English for an examination. But Japanese students' study habits are consistently oriented towards Japanese rather than English - when taking lecture notes, for instance. Students seem unable to take notes in English either due to difficulty with the medical terminology or with the actual procedure of taking notes. Practice in note-taking was not a feature of any English course or textbook during my entire investigation. In addition, there appears to be a uniformity of opinion between different student years and between public and privately educated medical students towards the importance of a knowledge of English for their medical lectures.

During the final years of study and at the post-graduate level, students become involved in a training

mechanism which contrasts sharply with the traditional medical lecture where no verbal participation by students occurs. The "dokushokai" allows students to summarise and present scientific research in an enthusiastic, supportive atmosphere. Significantly, only English language research is presented. Thus, a secondary or covert aim is to provide an effective means for improving language skills. Overall, the "dokushokai" neatly illustrates the vehicular role of English as a medium of medical education. Through English, students are able to study and dicuss the latest research and innovations in the medical field.

7.3 The Importance of English Language Training in Medical Education

The enormous pressure which English has begun to exert as an international language of medicine clearly has important implications for those teachers of English involved in the training of doctors and medical students overseas. As Kennedy remarks:

> "Although at first sight language planning theory may seem far removed from the language teacher, its practical application in education in fact reveals that the teacher is very much a part of that theory, and that his training should, at all levels, include a consideration of language planning" (Kennedy 1983: ix).

Although I shall go on later to suggest the kind of training and curriculum implementation that might be

appropriate in the Japanese context, it is worthwhile summarising the present emphases of the English language curriculum in medical faculties. In particular, we should now be in a position to contrast the actual situation of English language use in this occupational setting and the instructional programme designed to prepare the professional for these language situations. What has emerged from this investigation can be outlined in the following:

(1) The large majority of medical students regard reading skills improvement as the most essential aspect of language training. However, there appears to be serious dissatisfaction with the means by which this and other language skills are taught in departments of English (see 4-5 below).

(2) 'Reading' and composition form the main components of the syllabus. Oral skills (e.g. listening comprehension and spoken fluency) are markedly absent.

(3) The unbalanced character of the curriculum being also a continuation of the junior and senior high school curriculum approach, proves monotonous and demotivating for students.

(4) English is taught for only three semesters out of twelve in the medical school. This is thought by many teachers to be too little time to prepare students.

(5) English is taught in the first fifteen months of basic training when the need for English is least necessary - medical education proper begins in year 2 after completion of the general education course.

(6) Reading and writing are directed towards creative literature and cross-cultural matters. There is little reference to more technically oriented syllabus content which may relate to future study.

(7) Textbooks used for instruction are predominantly selected from novels, poetry, short story anthologies and cultural anthropology. In some cases, extracts from medical journalism such as magazines and newspapers are used and seem relatively popular with instructors.

(8) A substantial number of medical English textbooks for Japanese learners are, in fact, available in Japan although these are not used or referred to by English teachers.

(9) Materials for 'medical English' are produced entirely by doctors. There are 'two worlds' of English teaching/learning: one inside medical school, the other organised by doctors outside the teaching system.

(10) Teaching methodology is restricted to the grammar-translation method. This reduces the possibility of providing learners with alternative means of reading: for example, rapid reading, reading for information, and so on.

(11) Attitudes of both doctors and students towards English are very favourable. The majority (seventy per cent in the case of doctors) express strongly instrumental - professionally related - reasons for the study of English during medical training. The comparative neglect of listening and oral skills practice in the English teaching curriculum of medical schools has not prevented students from expressing their importance - as important a set of skills as reading and composition. A potential EMP (English for Medical Purposes) course in Japan might take this motivation towards oral/aural skills into account even though English teachers frequently downplay oral skills because "students don't have to speak English". Students' own opinions, on the other hand, clearly favour some integration of all four skills with input from other components such as cultural learning (i.e. learning about the socio-cultural situation and traditions of English-speaking countries such as the United States and Britain).

7.4 A Central Conflict: English for Technical Communication or for the Perfectability of Man

7.4.1 Introduction

7.4.1.1 There is an issue which connects both the philosophical origins and idealism of a physician's traditional position in Japanese society and the anxieties expressed by teachers of English and doctors alike about the moral welfare of the medical profession in contemporary society.

7.4.1.2 Generally, there appears to be a conflict in the English-teaching world of Medical Faculties between the fostering of humanistic idealism on the one hand and pragmatic, goal-oriented learning on the other. The majority of teachers of all subjects on the general education courses stressed the moral and all-round intellectual development of the medical student in this two year period of preparation.

The goal is a familiar one to Western educationalists - the ideal of the 'Renaissance man' with multi-faceted knowledge of the world and a cultivated aesthetic sense. Rousseau's notion of an 'éducation sentimentale' aspired to a similar enlightened, liberal goal. The teaching of English occurs in the context of a course in 'general culture' or "Kyōyō". This is conventionally translated as: "culture, refinement, cultivation, education" (Kenkyūsha 1978: 94).

7.4.1.3 The continuing emphasis in language teaching upon the "cultural" topics such as British and American novels and poetry or upon "intercultural learning" can be attributed to 4 crucial factors:

(i) The post-war reorganisation of the medical curriculum on the American model which emphasised the importance of "general education" before specialisation in a particular subject.

(ii) Anxiety in Japanese society over "de-personalisation" of the doctor in this high-tech, consumer society and the need to make the doctor a more 'sensitive' individual.

(iii) The desire to maintain and foster the ancient Confucian ideal of "jin" or humanitarianism in the medical arts.

(iv) The fact that English teachers are inadequately trained for teaching in a specialist environment such as the medical/scientific establishment, most of them specialists in English of American literature rather than EFL or applied linguistics.

I will consider each of these points in turn.

7.4.2 Post-war System of Education

Firstly, there is the problem of the historical impact of the re-organisation, in the post-war period, of the education system.

The recommendations of the post-war U.S. Education committee on the re-organisation of higher education in Japan called for a broader, more "enriching" pre-medical

experience - a view vigorously supported by many teachers of English. The recommendations were later implemented and constitute the organisational basis for language education in medicine:

> "(Report of the United States Education Mission to Japan submitted to the Supreme Commander for the Allied Powers)....
>
> In the curriculum of Japanese institutions of higher learning we think, as has already been suggested, that for the most part there is too little opportunity for general education, too early and too narrow a specialisation, and too great a vocational or professional emphasis.
>
> A broader humanistic attitude should be cultivated to provide more background for free thought and better foundation on which professional training may be based. This will enrich the student's later life and enable him to see how his professional work fits into the whole picture of human society" (quoted in Nihon Igaku Kyōiku Zasshi - Japan Journal of Medical Education, 1975: Vol. 5, No. 2, p.67.

7.4.3 The 'Humanising' Role of English

Another issue is the concern, even alarm, among Japanese doctors, the older generation in particular, over the potentially damaging effects on medical attitudes and behaviour of the so-called 'depersonalisation' or high-tech face of modern health care. The increasing use of sophisticated technology, it is thought, removes the doctor from the bedside and into the money-market of technological medicine. Scandals and court cases involving

bribery, extortion and deception in the medical field are an almost daily feature of the popular press and television.

Educationalists are worried. The editor of Igaku Kyoiku (Medical Education) explains the problem of 'de-humanisation' in the following terms:

> "It seems that hardness is a trait of medical care in Japan. Hardness means strongly authoritatian, paternalistic, disease-centered, technocratic attitude towards patients. Although when a patient maintains trust in and responds positively to such an attitude a smooth relationship can be established between patient and physician, once a patient begins to doubt this approach wishing to participate in his or her own medical care, friction and conflict will develop. Furthermore, patients will complain of a lack of softness or humaneness on the part of the physician" Igaku Kyoiku 1982:2,1,p.45).

In the view of some educational psychologists such as Tomoaki, Japanese physicians are deeply handicapped in their understanding and experience of interpersonal relationships on account of their intellectual and social superiority,

> "as well as a stereotyped medical education which is based on a rigorous, mechanistic view of science" Tomoaki 1978: 195).

From Tomoaki's notion of the "occupational disease of personality" which he maintains afflicts the Japanese doctor in modern times, it is not clear where, precisely

English teaching for this occupation fits in. The teaching of English seems to be caught up in a professional and popular struggle over declining medical morality and the question posed by one of the several academic papers published recently on this subject: 'How Should the Humanity of the Physician be Cultivated in Medical Education?' (Igaku Kyoiku 1980, Vol. 2, No. 1, pp65-72).

English study, identified as the study of fine literature, is widely regarded as a great humanising force in the emotional and intellectural development of the medical student.

7.4.4 Confucian Influences on Medical Education

The humanisation of the individual (through the study of great literature) has been the goal of Japanese medicine for longer that the popular press's call for changes in medical education would suggest. "I wa jin jitsu nari" (the practice of medicine is the practice of jin)[1] exemplifies the Confucian influences which have tried to foster humanitarianism in the medical arts.

"Jin jitsu" has two meanings. The first refers to the Confucian doctrine of benevolence and good will towards men; the second refers directly to the practice of medicine itself. The decline of the spirit of "jin jitsu" is often lamented by the older generation of doctors (Brownell 1973: 42).

---

[1] "Jin" (仁) = "perfect virtue, benevolence, humanity, charity" (Kenkyusha 1978: 62). "Jin jitsu" was well-known during the Tokugawa and early Meiji periods and the teaching of the Chinese classics in the higher schools continued the emphasis on "jin jitsu".

Now that health insurance programmes have removed the spirit of "jin jitsu" and that Chinese classics and traditions once compulsory are now no longer taught, it seems that the study of the English classics of British and American literature have been designated to perform this role!

7.4.5 Lack of Trained Teachers

The final problem lies in the narrowness of the training possessed by the teaching profession in the English departments of medical schools.

It could be argued that, despite all that has been mentioned above, the literary approach is the mainstay of the English syllabuses because Japanese teachers of English are not equipped to teach anything else.

The two English teachers at Shimane Medical University (former high school teachers) were elected members of staff on the basis of published work in the field of literary studies. This is viewed as a more prestigious, 'serious' qualification to teach English than a language teaching qualification. EFL has more inferior connotations of English teaching in secondary school.

The pedagogical problem is further intensified by the views of many teachers who believe that to teach medical English implies a desire to 'play doctor'. There is, therefore, both widespread ignorance of current applied linguistic thinking and developments in language teaching as well as, sometimes, hostility towards the suggestion

of a more specialised, specific-purpose approach to English language teaching. As the Professor of English at one of the medical schools visited (Kurume University) argued:

> "Instructors have not received medical training so we can't teach medical English" (Oka 1983: 63).

The concluding section outlines some implications of the present study for the organisation of English teaching in medical education in Japan.

7.5 Implications of this Study for English Teaching in Medical Education in Japan

7.5.1 General Comments

The results of this study have offered empirical support for a readily observable fact that, ethical and spiritual goals apart, the practical purpose of English language training in medical education in Japan is not perceived by learners themselves as being met. It is generally agreed that at least one major aim of English study during the Ippan Kyoiku period is to train students to cope with future linguistic demands, especially reading and writing skills in medicine. For many researchers and academically-oriented doctors, after graduation there is also the need for oral skills in English, e.g. case-history presentation, medical

conferences, etc.

The dissatisfaction that exists with the present language curriculum of the medical has been shown in this study. But the implementation of a more EMP approach to language teaching must be considered with care. As Kennedy points out in the context of policy implementation:

> "Language change should be phased (and) move at a speed commensurate with social acceptance, and be made in line with social trends not by decree otherwise community antagonism will prevent implementation" (Kennedy 1983: 273).

The educational conservatism of Japanese teachers has been noted. Potential antagonism to curriculum innovation in the present context would occur if radical change were attempted.

7.5.2 The Curriculum

Examination of the English language teaching process in Japanese medical education has revealed gaps between the ideals of foreign-language learning and actual practice. What is required, therefore, is:

7.5.2.1 The Establishment of Curriculum Goals

Those in charge of language teaching need tc ask the question: what is the medical student learning English for? One of the themes which constantly emerges in this study is the resolution of teaching staff to provide a Kyōyō or broad broad humanistic education through the study of foreign literature. This is clearly not a

practical activity given the occupational linguistic needs of the Japanese doctor. But if it is a desiderata of the language curriculum then English syllabus prospectuses must state as such. They should provide reasons why English is selected as a vehicle for Kyōyō.

What is implied here is that instrumental language needs must be distinguished from cultural and spiritual needs and that the distinction be explicitly stated in the official English syllabus of the medical school. If it is a goal to provide the learner with specific language skills related to medicine then the groundwork must be prepared for a suitable syllabus. Specific skills should be identified and appropriate tests devised to measure achievement. (Note that in Shimane Medical University translation of a 'set-text' is the only testing method used by the Japanese instructors - the same device used for teaching).

7.5.2.2 Teachers' Interests Subordinated to Learners' Needs

Actual language requirements of medical learners conflict with the personal academic interests of teachers. Regular introduction of teachers' own private interests into English classes - Japanese folk legends or the novels of D.H. Lawrence - have produced hostile reactions among students. There are also problems of lack of motivation and syllabus stagnation when topics are repeated every year in the same form and with the same textbooks.

But curriculum innovation in this respect has a precedent. In other subjects in general education, some

instructcrs have recently tried tc integrate their subjects with medical topics instead of their own research interests. At Hammamatsu Medical School, for instance, medical statistics is taught in place of the traditional mathematics course and clinical chemistry in place of general organic chemistry (Igaku Kyōiku 1980: 34).

7.5.2.3 Extending the Period of English Language Study

In the middle and later stages of medical training (i.e. years 3-6) students are faced with a rising volume of required technical reading in English (see section 5.3.2). But this rise coincides with a period of difficulty in which no help is formally available for those with language problems.

Parallel instruction might be a sensible alternative for curriculum developers to consider. This would require the allocation of perhaps one semester of the first or second year of the pre-medical course in English to the fourth or fifth year. The insertion of a language course into the medical curriculum would undcubtedly benefit from collaboration with the ongoing medical curriculum. Reading skills practice might draw upon the required textbooks in the parallel medical courses.

A further suggestion might be to simply increase the overall teaching time allotted to English - bearing in mind the warning of Ladefoged, Criper and Clark that "two extra years of poor teaching is not a guarantee to success" Ladefoged et al. ibid: 140).

The problem of where to find the extra hours for English teaching might be solved by re-examining the role of German language teaching.

7.5.2.4 The Phasing Out of German Language Teaching

German has been historically important in Japanese medicine. It has played a key role in the transmission of scientific information to and from Japan. Now, however, German is no longer a key 'lingua franca' in medical communication either within Japan or even internationally. Nor is German a useful tool in medical education.

German is retained as a subject in medical education in Japan for sentimental reasons only. The inevitable conclusion is that the study of German as a compulsory subject should be abandoned completely. The overall importance of English in medicine in Japan - rather than German - must be reflected adequately in the curriculum.

7.5.2.5 In-Service Language Instruction for Doctors

The writing of technical manuscripts for submission to journals, professional conferences, poster presentations, etc. is a key activity of many doctors and researchers at all levels in medical colleges. Much of this activity is conducted in English. But doctors in all of the cases encountered in my investigation had only ad hoc means of finding language assistance. This help may come from outside the institution in the local community. In Izumo, native speaker assistance was found among the

foreign business and missionary community.

Strangely, no official channels of communication exist in Japanese medical schools between departments of English (seen as existing solely for pre-medical students) and the medical staff (doctors, nurse, postgraduate workers, etc.).

What is essential is that the medical staff have access to facilities in the departments of English. This may include official access to language laboratories, learning materials, and, by some mutual arrangement, help from the English teaching staff. A special language servicing unit might be established in the medical school to provide for medical personnel who require language consultation.

There is great enthusiasm among doctors for continuing or 'brushing-up' their English. Private language tuition takes place in the evenings in Shimane and Hiroshima medical schools. There is place for official, evening refresher courses in English for medical staff. Once again, this would require an official extension of the role of the department of English into a language teaching centre whose facilities would be available on an organised and regular basis for both student and medical staff.

7.5.2.6 A Mixed Curriculum

In view of the tension that exists in the medical school curriculum between humanistic and practical ideals a compromise or 'middle-way' solution should be adopted.

A middle-way solution would accept the two ideals and attempt to develop their actual potential. In practice,

this would imply acceptance of both schools of thought - the literary, cultural emphasis as well as the practical language skills/EMP approach. Since these two aspects already exist in some confused measure in departments of English it must be possible to sharpen (in some cases establish for the first time) their combined effectiveness.

7.5.2.7 The Adoption of EMP Materials

The syllabus of Kyoto Prefectural Medical University 's Department of English has shown what may be possible by combining the literary and medical approach. The syllabus starts in the first year/first semester with extracts from medical history, medical journalism from magazines and newspapers. Literary-type texts on specifically medical topics are sought and introduced to students. Examples of the latter are: Anatomy of an Illness by Norman Cousins (1979) - the account of an acute case of collagen depletion illness and its unorthodox treatment (written by an American journalist and author); Journal of the Plague Year by D. Defoe, a literary classic of the eighteenth century.

In Kyoto, the building of medical vocabulary begins with the literary mode first, then gradually familiarising students with technical reading. The progressive intensification of medical content does not, at the same time, place sudden and unacceptable course demands upon teachers, especially those unfamiliar with technical

reading[1].

Materials need to be relevant to the subject that students are studying, i.e. medical science, at least some of the time during the period of study. Not to do so is to increase the frustration and lack of motivation that already exists among students.

Teaching materials also need to be well organised and provide meaningful practice. This requires, however, an alternative approach to the grammar-translation method widely used by teachers in secondary education and continued by English teachers in medical schools. This method does not provide for language practice in the practical communicative sense in which it is now being done in EFL teaching elsewhere in the world.

7.5.2.8 An Emphasis on Practical Reading Skills

Reading skills, in particular, need to be emphasised in the early stages of a student's language training. Firstly, there is the future exigency, as this study has shown, of ongoing technical reading both during and after medical training proper. Although the student is rarely required to write reports in English s/he is obliged to

---

[1]The Kyoto approach of mixed topic syllabus content is summarised thus: "I have sandwiched literary matters between medical materials partly for 'a change of air' and partly because I want them to understand how medicine does not exist in a void separated from man's sufferings and emotions" (H. Masuda 1985 - personal communication).

read the scientific literature in English and even buy textbooks in English. Secondly, there is the need to learn alternative reading strategies (e.g. skimming, skipping, speed reading, etc.) as well as different ways of viewing technical discourse from that provided throughout language learning from middle school onwards.

7.5.2.9 Oral/Aural Fluency Skills Improvement:("Eikaiwa")

"Eikaiwa" (English conversation) is a popular course component (among all types of medical learner) of the language syllabus. It seems that both students and teachers of English wish to include some degree of speaking and listening practice in the syllabus. Shimane Medical University's recent acquisition of a language laboratory probably reflects this serious committment to the idea, at least, of oral/aural improvement. However, there is no compulsory LL (language laboratory) class for students and the facilities are very seldom used. This perhaps points to a lack of knowledge about how to exploit the facility in addition to the fact that the facility runs counter to the overall English teaching ethos of the department.

For the doctor, it is obvious that effective speaking and listening skills are of increasing importance in international medicine. From the start of their medical training, doctors must receive practice in giving oral presentations. This can be initiated in the classroom and continued in special in-service sessions

for practising doctors. Pedagogical materials do now exist to teach the Japanese doctor about conference presentation/attendance in English. The key issue is whether departments of English are able and ambitious enough to initiate curriculum innovation towards a practical, communicative approach. Obviously, EMP materials must first be adopted in order to effect improvement in all language skill areas. Change agents must accept the fact that some teachers will try to label EMP materials as 'way out' or 'irrelevant', in an effort to resist such experiment and innovation.

7.5.2.10 Attention to the Learning of Medical Terminology

The learning of medical terminology is probably one of the most immediately relevant activities in a medical English component of a language course. Observation of lectures in paediatrics and anatomy showed that lectures in medical school are partially English-medium. They employ a high degree of borrowing and switching to English by means of medical/technical terms and phrases.

Strevens has rightly pointed to the importance of teaching to technical students "the rhetorical, discoursal and communicative features of scientific English" as opposed to the "apparently trivial task of teaching terminology" (Strevens 1980: 185). But in the case of Japanese medical students both of these pedagogical aspects are crucial. For the medical student, it is not an a priori fact that scientific terms are easily

understood and learned. These students do not ccme from a Greek or Latin language background and find technical terminology difficult. Beginning students in the medical school can profit from a course component which enables them to recognise and use the medical terminology which they encounter in lectures later on. This is a potentially fruitful area of cooperation between English departments and medical faculty departments.

7.5.2.11 Adaptation of the "Dokushokai" for EMP Teaching

An interesting aspect of professional medical communication in Japan which may have potential value to English language teaching/learning is the dokushokai.

The dokushokai with its emphasis upcn group learning and group dynamics and whose purpose is content learning as well as English skills improvement provides a role-model for teaching English to medical students as well as doctors. It allows instructors to move away from and experiment with a non lecture-style model of instruction. Although used mainly at the graduate or staff level a similar approach which involves student reading, note-taking, summarising, and oral presentation in teams might be an attractive learning technique at the undergraduate level also.

7.5.2.12 Mixed-Language Reading of Japanese Publications

In an earlier section I highlighted the complex use of code-switching and loan-words in Japanese medical

papers. But it is useful for English teachers to consider using this type of article as teaching material.

An article might be selected from the university journals and studied from the point of view of its English content. Where possible, the author could be invited briefly to comment and answer question on aspects of meaning in the article.

The proposal I am suggesting is that students are offered an intimate mixture of English and Japanese. The learner might be started with texts which contain only slight deviations from Japanese. As the course progresses the 'mixture' shifts more and more in the direction of English.

This technique does have precedent in second language teaching. Kelly (1969: 142-149) has described the technique of interlinear translating in the Middle Ages. Shaefer (1963) devised a scheme for teaching German by reading in a mixed language. More recently, Burling has suggested that

> "by capitalising on the ability of students to mix their languages, we exploit the tendency of the linguistic context to narrow the range of possible meanings that new words and constructions could have" (Burling 1982:50).

This seems to be a convenient way of using technical materials in the language classroom which is both directly relevant to students and integrative of medical knowledge. It is also a step-by-step method of presenting medical texts in English.

7.5.3 Teacher Training

The demands made upon the trainee doctor and the qualified doctor in Japan invite a radically different approach to the selection of English teaching staff in medical schools from that which holds at present.

In order to teach the specific language skills which can cope with the important role which English plays in medical education as well as its wider role as an instrument of professional communication, teachers must receive adequate training. There is the need to equip teachers with specialist skills. This follows from the specialised situation that teachers of English find themselves in, i.e. preparing students for medical training. The teacher must be able to analyse the local needs of students and doctors, suggest practical ways of meeting those needs by means of a tailored curriculum and be capable of implementing syllabus proposals.

But as I have observed among teaching staff, there exists no structure or precedent for learner-centred or skill-centred education. Teachers must be gradually encouraged to view the teaching of English in medical school as different in purpose and organisation from teaching in high school, or the teaching of literature in university.

This problem is related to the next issue: the specific criteria involved in the selection of teachers of English for Japanese medical schools.

7.5.4 Review of Selection Criteria for English Teachers

It should be no longer tolerable for a lecturer of English to have proved himself a competent researcher in American poetry in order to secure a job in teaching English in a medical school.

Teachers must be seen to be concerned with the whole range of fluency skills that doctors must acquire. Teachers with a practical interest in specialist language learning should be encouraged to apply for university positions. As this study showed in the case of Shimane Medical University and other colleges, instructers were all former school teachers with no special postgraduate qualification in language teaching and with private interests in American studies, comparative religion and Japanese literature.

Traditionally, just to be a native speaker of English has been thought sufficient qualification to teach the language in Japan. This mentality still prevails in universities and schools of medicine. It is unprofessional and should be rejected.

Applications for posts from native speakers with EFL/applied linguistics qualifications and who are also trained to some level in English for Specific Purposes need to be encouraged. This will seem a radical and strange proposal to many departments of English in Japanese medical schools. But it is not an unfamiliar policy among Japanese business coorporations. The latter commonly employ native speakers of English on the basis of ESP (business English) experience and interest.

7.5.5 Refresher Courses for Teachers of EMP

All teacher (professor, assistant professor, lecturer) in Ippan Kyoiku, including the English teaching staff, receive sabbatical time for study visits abroad. Study is funded jointly by the Ministry of Education and the university (in the case of Kokuritsu) or the university only (Shiritsu). In addition, numerous funds exist (travel allowance, study allowance, conference allowance) as part of the English teacher's salary package to enable them to 'brush up' their English or pursue research.

A detailed training policy for English teachers ought to be established by the Ministry of Education. Training should be oriented towards the teaching of English for Medical Purposes and could be conducted at overseas universities and centres which specialise in the teaching of English for medicine.

Within Japan, EMP curriculum research and development might be conducted at selected centres including the important experimental education universities at Tsukuba, Hyōgo and elsewhere in Japan. (Not only does Tsukuba University, near Tōkyo, possess a medical school it also participates in the U.N.E.S.C.O. 'alternative medical education project' sited at various institutions around the world to promote progressive and innovative methods of medical education. Tsukuba University would be an appropriate context in which to initiate discussion and experiment in EMP syllabus design).

7.5.6 The Formation of an 'Association of Teachers of English in Medical Schools'

An organisation of teachers needs to established devoted to the investigation and sharing of information about the teaching of English in medicine in Japan.

The formation of such an organisation - open to all teachers of English in medical schools - is needed in order to stimulate ideas and practical ways of improving the quality of instruction for doctors and students.

At present, no such organisation exists. English teachers are insulated from one another in their own institutions - apparently knowing little or nothing about colleagues and alternative syllabuses in similar situations elsewhere.

Such an organisation, with possible support from the Ministry of Education and from major medical education bodies such as the Life Foundation (Tōkyō) might also be able to institute appropriate seminars/training sessions and meetings for the purpose of improving the teaching of English for medicine.

APPENDICES

APPENDIX A

Glossary of Japanese Terms

Bungaku sakuhin 文学作品 : literary works, e.g. novels, plays, poetry.

Bunken 文献 : references section at the end of a (medical) journal article

Byoin 病院 : hospital, clinic

Daigaku 大学 : university, college

Dokushukai 読書会 : (literally) 'reading meeting', a journal club usually at a university or college during which published articles are read and critically discussed

Eigo 英語 : English language

Eigoka 英語科 : department of English at a school or university

Eikaiwa 英会話 : spoken English, 'conversational' English

Gaijin (Gaikokujin) 外国人 : foreigner, non-Japanese, (usually refers to Caucasian, foreign residents in Japan)

Gairaigo 外来語 : foreign word, loan-word in Japanese

Gakki 学期 : semestre, term

Gakko hojin 学校法人 : voluntary educational societies (an association of several bodies involved in the establishment and funding of private universities including schools of medicine)

Hajime ni 始めに : 'Introduction', opening section of a medical journal article

Hiragana ひらがな : Japanese phonetic symbols in cursive style, used mainly for native words and word endings (inflections, morphemes)

Igaku 医学 : medicine, medical science

Igakubu 医学部 : faculty of medicine (of a university)

Igakushi 医学史 : medical qualification on graduation from Japanese medical school; (equals M.D. of U.S.A. and M.B., Ch.B. of U.K.)

Ikadaigaku 医科大学 : medical university

Ippan Kyoiku 一般教育 : general education (liberal arts and sciences course in a medical university)

Isha 医者 : doctor (medicine), physician

Igaku Kyoiku 医学教育 : medical education

Jigoku jiken 地獄受験 : (literally) 'hell examination', referring to the period of intense pressure and stress experienced by Japanese high school students before college entrance examinations. Also 'jiken jigoku' 受験地獄

Jin 仁 : benevolence, perfect virtue, humanity, charity

Jin Jitsu 仁術 : the practice of jin

'I wa jin jitsu nari' '医は仁術成り' 'the art of medicine is the art of jin'

Joho 情報 information

Juku 塾 preparatory school, cram school

Kana かな : phonetic symbol system in Japanese (see 'Hiragana' and 'Katakana')

Kango 漢語 : words borrowed from (classical) Chinese

Kanji 漢字 : Sino-Japanese characters (about 1,850 adopted by law for general use in publications)

Kao 顔 : face

'Kao ga tatsu' 顔が立つ: to save face

Katakana カタカナ : phonetic symbols in angular style, used chiefly for transcribing foreign words into Japanese

Kojiki '古事記' : a 5th century collection of Japanese folk tales

Kun-yomi 訓読み : native Japanese reading of a kanji (see 'on-yomi')

Kyoiku 教育 : education

Kyoyo 教養 : culture, refinement, cultivation, 'education sentimentale'

Mombusho 文部省 : Japanese Ministry of Education

Nihongo 日本語 : the Japanese language

On-yomi 音読み : Chinese-based reading of a kanji (see 'kun-yomi')

Rangakusha 蘭学者 : scholars of Dutch in Japan (especially during the 17th and 18th centuries)

Shiritsu Daigaku 私立大学 : private university

Shiritsu Daigaku 市立大学 : city university

Sotsugyo 卒業 : graduation (from school, college)

"hairinikui sotsugyoshiyasui" : "It's tough to get in but easy to graduate".
'入りにくい、卒業しやすい'

expression used in Japanese education to contrast the difference between entry requirements and graduation from universities

	between entry requirements and graduation requirements from universities
Sumaato スマート :	correct, stylish, good, frequently refers to composition as in the expression 'sumaato na Eigo' i.e. 'good English'; from the English 'smart')
Youshi 要旨 :	summary, abstract of a (medical) journal article
Zasshi 雑誌 :	journal (e.g. Nihon Hifugaku Zasshi - Japanese Journal of Dermatology)

APPENDIX 2.1

Information Exchange

1. Bibliographic Database for English for Medical Purposes (EMP). Appended to this thesis is a computerised bibliography with category classifications for the benefit of instructors and researchers in the area of EMP (as well as for applied linguists involved in medical sociolinguistics and discourse analysis).

2. EMP Journals. Publications dealing with EMP matters are (in the general field of ESP): ESP Journal (American University, Washington); ESPEMA Bulletin (University of Khartoum, Sudan). More specific is the recently established Newsletter EMP: English for Medical and Paramedical Purposes (Medical Illustration and Teaching Facilities Unit, Ministry of Public Health, Kuwait - Vol.1, No.1 in 1984).

3. Associations. S.I.G. (Special Interest Group) meetings on English for Medicine are held annually at the TESOL Convention (Teachers of English to Speakers of Other Languages) in the U.S.A. and Canada.

（A） 医師および医学研究者の英語に関するアンケート調査

これは日本の医師および医学研究者が用いている英語について、その実状を調べるためのアンケートです。このアンケートに基づいて分析と調査を実施し、医学研究者のためのより効果的な英語教育の構想を目的としています。御回答はすべて秘密の扱いをし、外部に漏らすことはありません。どうぞよろしくお願い致します。

1983年　月　日

エディンバラ大学言語学科
ジョン・マーハ（John Maher）

下記の諸項目について、該当する番号を○で囲んで下さい。

（但し 11,12,14,15は空欄に記入してください。）

1 a．英語で書かれた医学文献（医学論文やレポートなど）を読まれることがありますか。	いいえ	1	番号2の場合は答1bし1cてと下もさい
	はい	2	
1 b．英語の医学文献はどの程度読まれますか。	まれに読むことがある	1	
	ときどき読む	2	
	たびたび読む	3	
	たえず読む	4	
1 c．英語の医学文献は読みやすいですか。	大変むずかしい	1	
	相当むずかしい	2	
	かなりやさしい	3	
	きわめてやさしい	4	
2 a．ドイツ語で書かれた医学文献を読まれることがありますか。	いいえ	1	も番回号答2しの て場下合さはい2b
	はい	2	
2 b．ドイツ語の医学文献はどの程度読まれますか。	まれに読むことがある	1	
	ときどき読む	2	
	たびたび読む	3	
	たえず読む	4	

3 a．英語で医学論文やレポートを書かれたことがありますか。	いいえ	1	番号2の場合回は答3bし3cてと下もさい
	はい	2	
3 b．英語の医学論文やレポートはどの程度書かれますか。	めったに書かない	1	
	ときどき書く	2	
	たびたび書く	3	
	たえず書く	4	
3 c．英語の医学論文やレポートは書きやすいですか。	大変むずかしい	1	
	相当むずかしい	2	
	かなりやさしい	3	
	きわめてやさしい	4	
4　英語の医学文献は現在のお仕事に関連がありますか。	関連は全くない	1	
	関連が少しある	2	
	関連が相当ある	3	
	関連が大いにある	4	
5　英語で実施される医学会に参加されたことがありますか。	な い	1	
	あ る	2	
6　医学会の研究発表や論文が英語で行なわれる場合に、それに出席したくないと思われますか。	出席したくない	1	
	かまわない	2	

7　英語で実施される医学会で、英語の研究発表をお考えになっていますか。

いいえ	1	
はい	2	

8　医師になられてから英語を勉学されたことがありますか。
（たとえばラジオ・テレビ・個人的になど）

いいえ	1	
はい	2	

9　英語の知識は医師の身分向上（出世）に関連があるとお考えですか。

関連は全くない	1	
関連が少しある	2	
関連が相当ある	3	
関連が大いにある	4	

10　大学で勉強された英語が医師になって役に立っていますか。

全く役に立っていない	1	
少しは役にたっている	2	
相当役にたっている	3	
大変役にたっている	4	

11　医学部における英語の勉学の目的をどのようにお考えですか。

１２　英語の必要性に関して、さらにご意見があればおきかせ下さい。

１３　御　勤　務　先

私立大医学部	1
国公立大医学部	2
私立病院	3
国公立病院	4

１４　御専門の分野と身分（例えば　内科医、小児科教授、生理学研究者など）

１５　御　年　令

１６　性　　別

男　　性	1
女　　性	2

ENGLISH FOR JAPANESE DOCTORS

A Questionnaire

This questionnaire is part of a study of the extent to which English features in the medical communication of doctors in Japan. By filling out this questionaire your contribution to this investigation will help provide more effective English language training for Japanese doctors.

All the answers you provide will be completely confidential.

Thank you for your help.

Page 1

Please answer EITHER by circling one number per question (①)
OR by writing in the space provided

1a. Do you ever read medical articles/books in English ?		
NO	1	do Q.2
YES	2	do Q.1b
1b. I read medical books/articles in English:		
VERY RARELY	1	
SOMETIMES	2	
OFTEN	3	
VERY OFTEN	4	
1c. I read medical books/articles in English:		
WITH GREAT DIFFICULTY	1	
WITH DIFFICULTY	2	
FAIRLY EASILY	3	
VERY EASILY	4	
2a. Do you ever read medical articles/books in German ?		
NO	1	do Q.3
YES	2	do Q.2b
2b. I read medical articles/books in German:		
VERY RARELY	1	
SOMETIMES	2	
OFTEN	3	
VERY OFTEN	4	
3a. Have you ever written a medical report/article in English ?		
NO	1	do Q.4
YES	2	do Q.3b
3b. I write medical articles/reports in English:		
VERY RARELY	1	
SOMETIMES	2	
OFTEN	3	
VERY OFTEN	4	
3c. I write medical articles/reports in English:		
WITH GREAT DIFFICULTY	1	
WITH DIFFICULTY	2	
FAIRLY EASILY	3	
VERY EASILY	4	

Page 2

4. In my work, medical articles/reports written in English are:

NOT RELEVANT	1
SOMEWHAT RELEVANT	2
IMPORTANT	3
ESSENTIAL	4

5. Have you attended a medical meeting in which English is used ?

NO	1
YES	2

6. Would it put you off attending a lecture or discussion if it were conducted in English ?

NO	1
YES	2

7. Would you consider writing a paper for a meeting which conducts its proceedings in English ?

NO	1
YES	2

8. Have you studied English since becoming a doctor ? (For example, English by radio, T.V., privately, etc.)

NO	1
YES	2

9. Do you think that a knowledge of English contributes to the advancement of a Japanese doctor's career ?

NO, NOT AT ALL	1
A LITTLE	2
DEFINITELY	3
NOT SURE	4

10. How useful were your English classes at medical school either during your studies or in your professional life afterwards ?

NOT RELEVANT	1
SOMEWHAT RELEVANT	2
IMPORTANT	3
ESSENTIAL	4

11. What do you think is the purpose of English study in medical school ?

12. Do you have any more comments to make about the English language needs of doctors in Japan ?

13. Are you employed mainly in a:

FACULTY OF MEDICINE (PRIVATE)	1
FACULTY OF MEDICINE (PUBLIC)	2
CLINIC (PRIVATE)	3
CLINIC (PUBLIC)	4

14. What is your position and discipline ? (e.g. G.P. in internal medicine, lecturer in pediatrics, researcher in.... etc.)

15. Please state vour age:

16. Sex:

MALE	1
FEMALE	2

（B） 医学部学生の英語に関するアンケート調査

これは日本の医学部学生が、英語の文献を読んだり書いたりするときの実状を調べるためのアンケートです。このアンケートに基づいてさらに分析と調査を実施し、より効果的な医学部学生を対象とする英語教育の構想を目的としています。回答はすべて秘密の扱いをし、外部に漏らすことはありません。御協力をお願いします。

1983年　月　日

エディンバラ大学言語学科
ジョン・マーハ（John Maher）

下記の諸項目について、該当する番号を○で囲んで下さい。

(但し７ｂ．９は空欄に記入して下さい。)

1 a．英語で書かれた医学の文献を読むことがありますか。			
	いいえ	1	番
	はい	2	号
			2
1 b．英語の医学文献はどの程度読まれますか。	まれに読むことがある	1	の
	ときどき読む	2	場
	たびたび読む	3	回合
	たえず読む	4	答は
			し1b
1 c．英語の医学文献は読みやすいですか。	大変むずかしい	1	て1c
	相当むずかしい	2	下も
	かなりやさしい	3	さ
	きわめてやさしい	4	い
2 a．英語で医学のレポートを書くことがありますか。	いいえ	1	い2c番
	はい	2	も号
			回2
2 b．英語の医学レポートはどの程度書きますか。	めったに書かない	1	答の
	ときどき書く	2	し場
	たびたび書く	3	て合
	たえず書く	4	下は
			さ2b

2 c．英語の医学レポートは書きやすいですか。	大変むずかしい	1	
	相当むずかしい	2	
	かなり簡単である	3	
	まったく簡単である	4	
3 a．ドイツ語で書かれた医学文献を読まれることがありますか。	いいえ	1	3b番も号回2答の下し場さて合い
	はい	2	
3 b．ドイツ語の医学文献はどの程度読みますか。	まれに読むことがある	1	
	ときどき読む	2	
	たびたび読む	3	
	たえず読む	4	
4 医学を学ぶときに、ドイツ語の医学用語にどの程度接しますか。	めったに接しない	1	
	ときどき接する	2	
	相当接する	3	
	非常によく接する	4	
5 医学の講義を聞くときに、英語の知識はどの程度必要だと思いますか。	全く必要ない	1	
	少し必要である	2	
	かなり必要である	3	
	きわめて必要である	4	

6　英語の医学文献はあなたの勉学や研究に関連がありますか。

関連は全くない	1
少しは関連がある	2
相当な関連がある	3
大いに関連がある	4

7 a　医学部学生の立場から、下記の諸項目の重要性について、該当するものに○印をつけて下さい。

英会話	1．大切である	2．少し大切	3．かなり大切	4．絶対必要
外国文化の学習	1．〃	2．〃	3．〃	4．〃
英文学の鑑賞	1．〃	2．〃	3．〃	4．〃
読解力の向上	1．〃	2．〃	3．〃	4．〃
英作文の向上	1．〃	2．〃	3．〃	4．〃
ヒヤリングの向上	1．〃	2．〃	3．〃	4．〃
その他	1．〃	2．〃	3．〃	4．〃

（項目を指定して下さい）

7 b．上記の諸項目について、さらに意見があればお書き下さい。

8　医学文献を読んだり書いたりするとき、大学の英語の授業は役立っていますか。

		答合番
役立っていない	1	しは号
少し役立っている	2	て91
相当役立っている	3	下もの
大変役立っている	4	さ回場
		い

9　医学文献を読んだり書いたりするとき、大学の英語の授業が役立っていない理由を説明して下さい。

10　医学部における英語教授法の改善について、なにか提案があればお書き下さい。

11　所　　属

私立大医学部	1	
国公立大医学部	2	

12　学　　年　(○印をつけてください)

1学年　　2学年　　3学年

4学年　　5学年　　6学年　　大学院（研究室）

13　性　　別

女　性	1·	
男　性	2	

ENGLISH FOR MEDICAL STUDENTS

A Questionnaire

This questionnaire is part of a study of the extent to which English features in medical education in Japan. By filling out this questionnaire your contribution to this investigation will help provide more effective English language training for Japanese doctors.

All the answers you provide will be completely confidential.

Thank you for your help

Page 1

Please answer EITHER by circling one number per question ($\frac{1}{2}$)
OR by writing in the space provided

1a. Do you ever read medical books in English ?			
	NO	1	do Q.2
	YES	2	do Q.1b
1b. I read medical books in English:			
	VERY RARELY	1	
	SOMETIMES	2	
	OFTEN	3	
	VERY OFTEN	4	
1c. I read medical books in English:			
	WITH GREAT DIFFICULTY	1	
	WITH DIFFICULTY	2	
	FAIRLY EASILY	3	
	VERY EASILY	4	
2a. Have you ever written medical reports in English ?			
	NO	1	do Q.3
	YES	2	do Q.2b
2b. I write medical reports in English:			
	VERY RARELY	1	
	SOMETIMES	2	
	OFTEN	3	
	VERY OFTEN	4	
2c. I write medical reports in English:			
	WITH GREAT DIFFICULTY	1	
	WITH DIFFICULTY	2	
	FAIRLY EASILY	3	
	VERY EASILY	4	
3a. Do you ever read medical books in German ?			
	NO	1	do Q.4
	YES	2	do Q.3b
3b. I read medical books in German:			
	VERY RARELY	1	
	SOMETIMES	2	
	OFTEN	3	
	VERY OFTEN	4	

Page 2

4. I come across German medical terminology in my studies:

VERY RARELY	1
SOMETIMES	2
OFTEN	3
VERY OFTEN	4

5. The amount of English I need for comprehension of medical lectures is:

NONE AT ALL	1
A LITTLE	2
QUITE A LOT	3
A GREAT DEAL	4

6. In my studies, medical books and resources in English are:

NOT RELEVANT	1
SOMEWHAT RELEVANT	2
IMPORTANT	3
ESSENTIAL	4

7a. The features of my English studies which are important to me as a <u>medical student</u> are:

	NOT IMPORTANT	SOMEWHAT IMPORTANT	IMPORTANT	ESSENTIAL
English conversation	1	2	3	4
learning about foreign culture	1	2	3	4
English literature appreciation	1	2	3	4
improving reading skills	1	2	3	4
improving writing skills	1	2	3	4
improving listening skills	1	2	3	4
others (please specify)	1	2	3	4

7b. Would you like to expand on one or more of your replies ?

8. Have your English classes helped you to read and write about <u>medical topics</u> ?

NO, NOT HELPFUL	1
SOMEWHAT HELPFUL	2
HELPFUL	3
VERY HELPFUL	4

9. If your English classes have not helped you to read and write about medical topics can you explain why this is so ?

10. Do you have any suggestions to offer about how English language education in medical school could be improved ?

11. I am a student in a:

PRIVATE FACULTY OF MEDICINE	1
PUBLIC FACULTY OF MEDICINE	2

12. What year of medical school are you in ? (PLEASE CIRCLE)

1st 2nd 3rd 4th 5th 6th postgraduate

13. Sex:

FEMALE	1
MALE	2

APPENDIX 4.1

Contents Page of Hiroshima Igaku Kyōkai Zasshi

ISSN 0367-5904

——創刊明治29年(1896)芸備医事——

廣島醫學

The Journal of The Hiroshima Medical Association
Vol. 36 No. 9 1983
〔9 月 号 内 容〕

広島医学会発行

広　医
J. Hiroshima Med. Ass.

APPENDIX 4.2 Contents Page of the Medical Journal of Shimane Prefectural Central Hospital

島根県立中央病院医学雑誌

第 10 巻　　第 1 号　　昭和58年1月

目　　次

Medical Journal of Shimane Prefectural Central Hospital
Vol. 10, No. 1, Jan., 1983

APPENDIX 4.3

Article: "The Role of Mast Cells in Inflammation"

日皮会誌: 91 (13), 1666-1671, 1981 (昭56)

特 別 講 演 W24-6

炎症におけるマスト細胞の役割

山 本 昇 壮*

要 旨

マスト細胞は何らかの刺激によって種々の活性物質を遊離し，炎症を惹起する．その代表的刺激の1つはI型アレルギー反応であり，代表的起炎物質はヒスタミンである．また，マスト細胞は起炎物質遊離と同時に炎症を修復する物質を遊離する．本稿では，マスト細胞由来の代表的起炎物質であるヒスタミンを中心に，マスト細胞からヒスタミンと同時に遊離され間接的にヒスタミンによる炎症を抑制する可能性をもつECF-Aおよびヘパリンをとりあげ，起炎および消炎の両面から炎症におけるマスト細胞の役割について考察した．

p1

はじめに

マスト細胞は，ヒスタミンをはじめとして種々の薬理学的活性物質を含有している．マスト細胞の関与する炎症は，これら活性物質がマスト細胞から遊離されることによってはじまる．マスト細胞からの活性物質遊離は種々の刺激によって起るが(Fig. 1)，IgEの関与するI型アレルギー反応はその代表的なものの1つであろう．

p2

遊離された起炎物質は局所に炎症を惹起するが，同時にマスト細胞は，起炎物質の活性を消失させる物質を遊離することが明らかになってきている．本稿では，活性物質遊離刺激の代表的なものの1つであるIgEの関与する皮膚I型アレルギー反応および代表的活性物質であるヒスタミンを中心に，起炎物質遊離と炎症抑制物質遊離の両面から，皮膚の炎症におけるマスト細胞の役割について考えてみたい．

p3

マスト細胞由来の薬理学的活性物質

p4

何らかの刺激，特にI型アレルギー反応によってマスト細胞から遊離される活性物質には多くのものが知られてきている(Table 1)．これらが皮膚の炎症にいかなる役割を担っているのか，いまだ解析されていない点が多い．しかしながら，これら活性物質の多くのものは，少なくとも *in vitro* の実験結果からは，皮膚の炎症と何らかの関連をもつ可能性を推察させる．

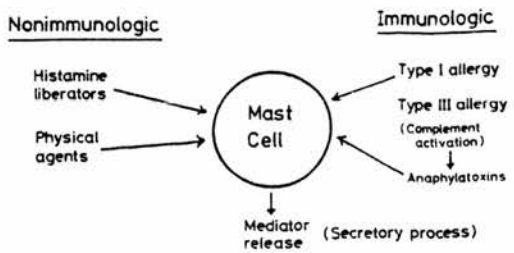


Fig. 1 Factors involved in release of chemical mediators from mast cells.

マスト細胞由来の起炎活性物質

p5

ヒスタミン: 皮膚のヒスタミンの大部分がマスト細胞内に含まれていることは周知の事実である．ヒスタミンは細動脈を拡張させ毛細血管，細静脈の圧を増しそれらの内皮細胞を収縮させ，毛細血管，細静脈の透過性を亢進させ，いわゆる炎症の第I相を形成する．

皮膚がI型アレルギー反応の場となり，マスト細胞上で抗原とIgE抗体の反応によってヒスタミンが遊離されることは，感作皮膚に対応する抗原を反応させることによって *in vitro* で証明される．健常ヒト皮膚を *in vitro* で花粉抗原に過敏な患者血清で感作し，その感作皮膚に対応する抗原を加えることによってヒスタミン遊離がえられる[1] (Fig. 2)．皮膚におけるこの遊離反応も，肺組織など他の組織を用いた実験系と同様，マスト細胞の分泌機序にもとづく遊離反応である．マスト細胞のreceptorにFc部分で特異的に結合したIgE抗体2分子以上と抗原が反応すると，そのreceptorに関連したserine esteraseが活性化され[2]，glucoseを必要とする代謝過程が進行する．このヒスタミン遊離は，細胞内cyclicAMPおよびcyclicGMPによってcontrolされており[3]，温度お

p6

*島根医科大学皮膚科学教室
Shoso Yamamoto: The role of mast cells in inflammation
別刷請求先: (〒 693) 島根県出雲市塩冶町 89-1
島根医科大学皮膚科教室 山本昇壮

Table 1 Mast Cell-dependent Mediators

Vasoactive smooth muscle reactive mediators	Chemotactic mediators	Structural proteoglycans	Enzymes
Histamine	ECF-A	Heparin	Chymase
SRS-A	ECF oligopeptides	Chondroitin 4 and 6 sulphate	Arylsulphatase
Serotonin	NCF	Dermatan sulphate	N-acetyl-beta-D-glucosaminidase
PAF	Lipid chemotactic factors		Basophil lung kallikrein of anaphylaxis
Arachidonic acid metabolites	Histamine		Beta-glucuronidase

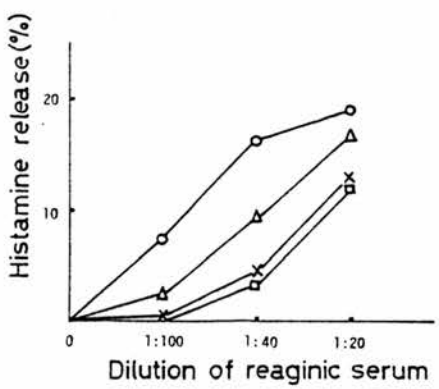


Fig. 2 Antigen-iduced histamine release from passively sensitized human skin.

よび Ca^{++} 依存性で[4]，細胞内の microtubules, microfilaments などの関与も知られている[5][6]．これらの事実は，皮膚もⅠ型アレルギー反応の重要な場の1つであり，その反応によってマスト細胞から薬理学的活性物質が遊離され炎症が惹起されうることを推察させる．ヒスタミンによって惹起される皮膚反応は，主として血管透過性亢進による膨疹すなわち蕁麻疹としてあらわれるが，蕁麻疹発症部位から有意のヒスタミンも検出され[7]，ヒスタミンがこの反応における血管透過性亢進の主たる mediator であることは疑いのないところであろう．

Slow Reacting Substance of Anaphylaxis (SRS-A)：Ⅰ型アレルギー反応において古くから知られているもう1つの重要なマスト細胞由来の mediator に SRS-A がある．SRS-A は Smooth muscle を徐々に収縮させる mediator としてよく知られているが，皮膚の血管透過性を亢進させることも報告されている[8]．ヒトのレアジン血清で感作したサルの皮膚に抗原を反応させることによって，SRS-A が遊離することが報告されており[9]，SRS-A も皮膚の炎症に何らかの役割を持つであろうことは推察できるが，炎症惹起にいかなる意義を有しているか，現在までのところ解析されていない．

われわれの感作モルモット皮膚を用いた実験では，抗原による有意のヒスタミン遊離はみられるにもかかわらず SRS-A 活性は全く検出されず (Table 2)，また，ヒト皮膚を用いた実験においても有意のヒスタミン遊離が得られる実験系で SRS-A は検出できない[1]．しかしながら，このことはヒスタミンが皮膚Ⅰ型アレルギー反応における主たる mediator であることは疑いないにしても，SRS-A の皮膚からの遊離を否定するものではない．さらに詳細な解析が必要と思われる．

Table 1 にみられる他の活性物質についても，皮膚

Table 2 *In vitro* Antigen-induced Histamine and SRS-A Release from Actively Sensitized Guinea-pig Skin

Exp. No.	Histamine* (mμg/g wet weight)	SRS-A
1	627	not detectable
2	819	
3	552	
4	323	
5	456	
6	200	
7	1,712	
8	972	
9	934	
10	626	

* Antigen-induced histamine release was corrected by subtracting the corresponding spontaneous histamine release.

の炎症におけるそれらの意義はほとんど解析されていない．少なくとも皮膚以外の組織あるいは血中好塩基球を用いた実験では炎症の mediator となりうることは容易に推察できるところであり，今後これらの1つ1つの解析が皮膚において必要と思われる．

マスト細胞由来の炎症抑制物質

マスト細胞が SRS-A を不活性化する arylsulfatases を含有しており，I型アレルギー反応によってこの酵素も遊離されることが知られているが[10]，ここでは，遊離物質の炎症抑制効果は直接期待できなくても，何らかの因子を介して炎症抑制効果を発揮する可能性のあるものについて述べてみたい．

Eosinophil Chemotactic Factor of Anaphylaxis (ECF-A)：I型アレルギー反応によって ECF-A が遊離されることはよく知られているが，感作モルモット皮膚からも抗原によって ECF-A が遊離される[11]．この遊離はヒスタミン遊離と平行してみられ (Fig. 3)，Ca^{++} 依存性でその様式はヒスタミン遊離のそれと変るところはない[12] (Table 3)．ヒトにおいては，起炎物質であるヒスタミン自身が好酸球を遊走させることが知られている[13]．

好酸球は，I型アレルギー反応によってマスト細胞から遊離される起炎物質を不活化する種々の酵素を含有している．すなわち，ヒスタミンを分解する histaminase, SRS-A を不活化する arylsulfatase B, platelet activating factor を不活化する phospholipase D などを含有しており，炎症局所でこれらを放出して消炎の役割を果していると考えられている[14]．好酸球が皮膚I型アレルギー反応の局所に遊走してくることは

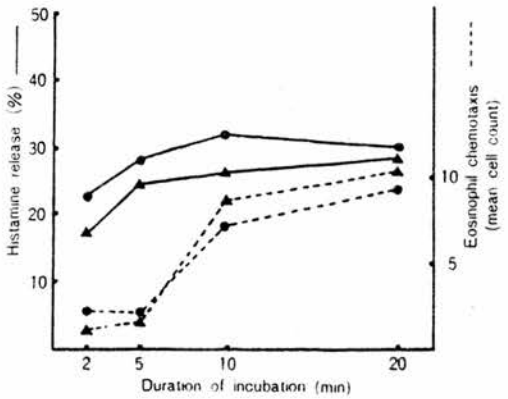


Fig. 3 Antigen-induced histamine and ECF-A release from guinea pig skin.

in vivo においてもみられているが[15]，ECF-A によって集積された好酸球によってヒスタミンなどによる炎症がどの程度修飾されているか詳細は不明である．

ヘパリン：ヒスタミンはマスト細胞の顆粒内に蛋白を介してヘパリンと結合した型で存在し，何らかの刺激によって顆粒は細胞外に放出され bound ヒスタミンから free ヒスタミンとなり微細血管に作用してそれを拡張させ透過性を亢進させる．

ヒスタミンによって惹起される炎症の程度は，局所で遊離されるヒスタミンの量とその場からの消失とのバランスによって左右されるであろうことは容易に推察できる．遊離されたヒスタミンの局所からの消失は，一部は拡散によるであろうが，皮膚におけるヒスタミン分解酵素の役割も無視できないであろう．

モルモット皮膚には主として histaminase および histamine-N-methyltransferase の2種類のヒスタ

Table 3 Effect of Calcium on *in vitro* Release of ECE-A and Histamine from Actively Sensitized Guinea-pig Skin by Antigen

Experiment No.	Ca^{++} (mM)	Eosinophil chemotaxis* (mean cell count)		Histamine release (%)	
		Antigen	Tyrode solution	Antigen	Tyrode solution
1	1.8	12.3	0.9	25.7	1.4
	0	2.7		4.7	
2	1.8	7.9	1.6	23.4	0.9
	0	0.3		3.6	
3	1.8	11.2	2.2	23.3	1.0
	0	1.3		0.9	

* ECF-A activity was assessed in terms of the cell count of eosinophils migrating completely through the filter of Boyden's chember. The chemotactic response was expressed as the mean cell count of eosinophils of 10 high-power fields randomly selected.

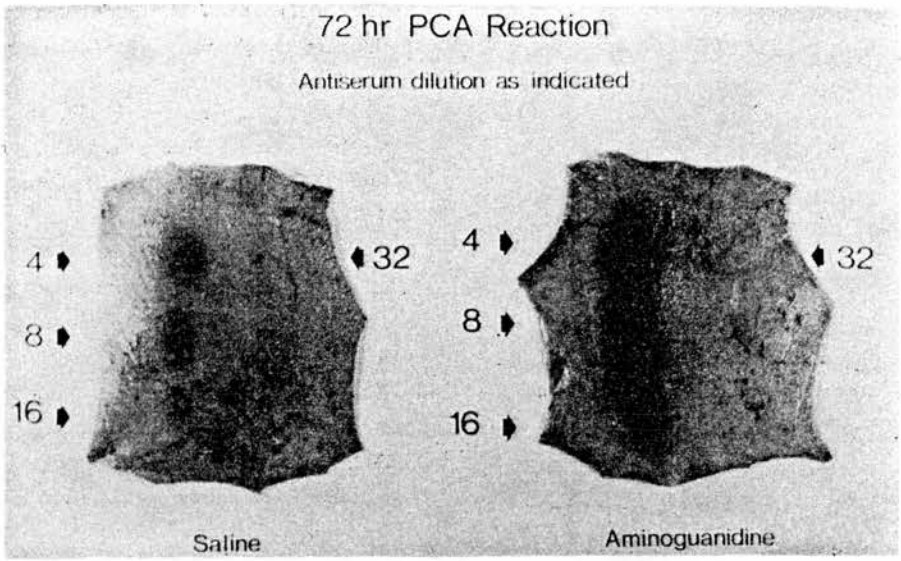


Fig. 4 Effect of histaminase inhibitor, aminoguanidine, on 72 hr homologous PCA reaction in guinea pig.
Left: Saline-treated animal
Right: Aminoguanidine-treated animal

ミン分解酵素が存在する[16]．ヒスタミンによって惹起されるモルモットの72時間同種 PCA 反応を実験モデルとして histaminase のこの反応への関与を検討してみると，histaninase の inhibitor である aminoguanidine で処理したモルモットのその反応程度は，無処理モルモットにおけるそれよりも著明に増強される[16] (Fig. 4)．この事実は，ヒスタミンによって惹起される炎症の程度は少なくとも一部においては局所に存在するヒスタミン分解酵素の活性の程度によって modulate される可能性を示唆している．ヒト皮膚にもモルモットと同様 histaminase および histamine-N-methyltransferase が存在する[17]．

さて前述したようにヒスタミンはマスト細胞の顆粒内にヘパリンと結合した状態で存在する．したがってⅠ型アレルギー反応においては，ヘパリンはヒスタミンと同時にマスト細胞から遊離される．また，ヘパリンが組織から histaminase を遊離させることも知られている[18]．加えて，われわれの実験結果は，モルモット皮膚から抽出した histaminase の活性はヘパリンによって著明に増強されることを示している[19]．すなわち，モルモット皮膚ホモジネイトの上清から60%硫安飽和で得た沈澱を緩衝液に溶解し Sephadex G-200 で分画すると histaminase 活性は蛋白の第1ピークの下降脚に一致してみられる (Fig. 5)．これらの分画の histaminase 活性はヘパリンの存在によって著明に増強される (Fig. 6)．これらの結果は，皮膚Ⅰ型アレルギー反応によって遊離されるヘパリンも histaminase を介して炎症抑制の役割を担っている可能性を示唆している．

ヒスタミン：Ⅰ型アレルギー反応においては，ヒスタミンは起炎物質であると同時に target cell からの活性物質遊離を抑制することが知られている[20]．前述のように，皮膚Ⅰ型アレルギー反応におけるヒスタミン遊離は，target cell 内の cyclicAMP の増加に

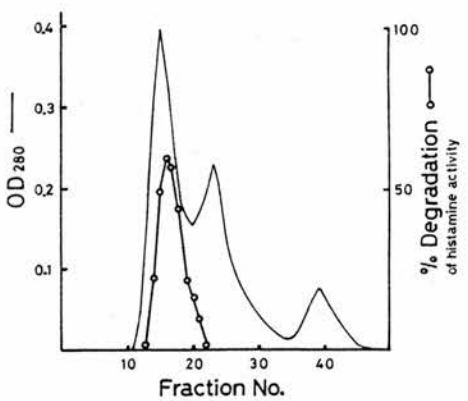


Fig. 5 Gel filtration on Sephadex G-200 of 60% ammonium sulphate-precipitated crude histaminase of guinea pig skin.

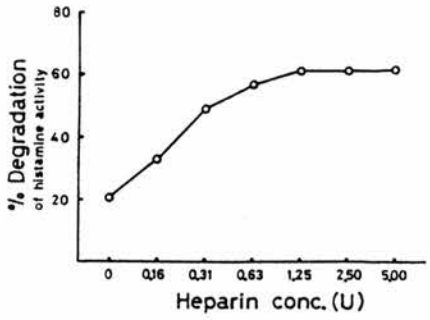


Fig. 6 The effect of heparin on histaminase activity in the histaminase preparation of guinea pig skin from Sephadex G-200 gel filtration.

よって抑制される[3]．ヒスタミンは H_2-receptor を介して target cell 内の cyclicAMP を増加させることが知られており，I型アレルギー反応によって遊離されたヒスタミンは，この機序によって活性物質の遊離を抑制することが推察されている[21]．しかしながら，皮膚におけるI型アレルギー反応にこの機序が存在するか否か現在のところ不明である．

おわりに

現在まで，表1にみられるような種々の薬理学的活性物質がマスト細胞から遊離されることが知られてきている．ヒスタミンのごとく古くから炎症との関連が明らかにされているものもあるが，いまだ生体内での役割が明確でないものも多い．特に皮膚においてはその遊離の有無も明らかにされていないものが多い．マスト細胞の関与する炎症反応は遊離されたこれら活性物質による生体の反応の総合結果である．今回その1例として述べたように，マスト細胞は炎症を惹起する活性物質のみならず，それを修復する物質も同時に遊離する．マスト細胞の炎症における役割を理解するためには，その反応の場でのこれら活性物質の遊離の有無およびその役割を1つ1つ解析することが必要と思われる．

p20

文 献

1) Greaves, M. W., Yamamoto, S. and Fairley, V. M.: IgE-mediated hypersensitivity in human skin studied using a new *in vitro* method, *Immunology*, **23**: 239-248, 1972.
2) Yamamoto, S. and Greaves, M. W.: Diisopropylfluorophosphate-evoked inhibition of anaphylactic histamine release from human skin: decrease of the inhibition by storing the skin specimens, *Acta Dermatovener*, **59**: 121-124, 1979.
3) Yamamoto, S., Greaves, M. W. and Fairley, V. M.: CyclicAMP-induced inhibition of IgE-mediated hypersensitivity in human skin, *Immunology*, **24**: 77-83, 1973.
4) Yamamoto, S. and Greaves, M. W.: The role of calcium in human cutaneous anaphylaxis, *Int. Arch. Allergy Appl. Immunol.*, **44**: 797-803, 1973.
5) Yamamoto, S., Ozasa, S. and Maeda, M.: Human skin anaphylaxis. Effect of cyclic-AMP on the two stages of allergic histamine release from human skin, and colchicine-induced inhibition of cutaneous allergic histamine release, *Hiroshima J. Med. Sci.*, **26**: 167-171, 1977.
6) Yamamoto, S., Greaves, M. W. and Fairley, V. M.: Inhibition of human cutaneous anaphylaxis by cytochalasin B, *Immunology*, **24**: 1007-1012, 1973.
7) Bentley-Phillips, C. B., Kobza-Black, A. and Greaves, M. W.: Induced tolerance in cold urticaria caused by cold-evoked histamine release, *Lancet*, **2**: 63-66, 1976.
8) Orange, R. P. and Austen, K. F.: Slow reacting substance of anaphylaxis, *Adv. Immunol.*, **10**:105-143, 1969.
9) Kuritzky, B. and Goodfriend, L.: Monkey SRS-A. Immunological release from lung and skin fragments. Gel filtration properties and molecular weight estimation, *Int. Arch. Allergy and Appl. Immunol.*, **46**: 552-570, 1974.
10) Lynch, S. M., Austen, K. F. and Wasserman, S. I.: Release of arylsulphatase A but not B from rat mast cells by noncytolytic secretory stimuli, *J. Immunol.*, **121**: 1394-1399, 1978.
11) Kimura, I., Yamamoto, S. and Yamura, T.: *In vitro* relsase of eosinophil chemotactic factor of anaphylaxis (ECF-A) from guinea pig skin, *Int. Arch. Allergy Appl. Immunol.*, **60**: 465-468, 1979.
12) Yamamoto, S., Kimura, I. Takagaki, K, and Yamura, T.: The role of calcium in *in vitro*

release of eosinophil chemotactic factor of anaphylaxis (ECF-A) from guinea pig skin, *Arch. Dermatol.* Res., in press.

13) Clark, R. A. F., Gallin, J. I. and Kaplan, A. P.: The selective eosinophil chemotactic activity of histamine, *J. Exp. Med.*, **142**: 1462-1476, 1975.

14) Austen, K. F.: Homeostasis of effector systems which can also be recruited for immunologic reactions, *J. Immunol.*, **121**: 793-805, 1978.

15) Hirashima, M. and Hayashi, H.: The mediation of tissue eosinophilia in hypersensitivity reaction. I. Isolation of two different chemotactic factors from DNP-ascaris extract-induced skin lesion in guinea pig, *Immunology*, **30**: 203-212, 1976.

16) Yamamoto, S., Francis, D. and Greaves, M. W.: Enzymic histamine metabolism in guinea pig skin and its role in immediate hypersensitivity reactions, *Clin. Exp. Immunol*, **26**: 583-589. 1976.

17) Francis, D., Greaves, M. W. and Yamamoto, S.: Enzymic histamine degradation by human skin, *Br. J. Pharmac.*, **60**: 583-587, 1977.

18) Hahn, F., Schmutzler, W., Seseke, G., Giertz, H. and Bernauer, W.: Histaminfreisetzung durch Meparin und Protamin beim Meerschmeinchen, *Biochem. Pharmacol.*, **15**: 155-160, 1966.

19) Yamamoto. S., Yoshikuni, K. and Yamura, T.: Effect of heparin on histaminase in guinea pig skin. *Arch. Dermatol. Res.*, **267**: 101-104, 1980.

20) Bourne, H. R., Melmon, K. L. and Lichtenstein, L. M.: Histamine augments leucocyte adenosine 3', 5'-monophosphate and blocks antigenic histamine release. *Science*, **173**: 743-745, 1971.

21) Lichtenstein, L. M. and Gillespie, E.: Inhibition of histamine release by histamine controlled by H_2-receptor, *Nature*, **244**: 287-288, 1973.

APPENDIX 4.5

Doctors' Attendance at Medical Meetings in English

1. ************************** 42.5% (51)
   Have not attended

2. ********************************** 55.8% (67)
   Have attended

3. ** 1.7% (2)
   Do not know

(Total N=120)

APPENDIX 4.6

Doctors' Attendance at Medical Meetings in English - according to Place of Work

	Private Facul. of Medicine	Public Facul. of Medicine	Private Clinic	Public Clinic
1. Have not attended	30.0% (6)	44.4% (32)	50.0%(8)	30.0%(3)
2. Have attended	65.0% (13)	54.2% (39)	50.0%(8)	70.0%(7)
3. Do not Know	5.0% (1)	1.4% (1)	0.0% (1)	0.0% (1)

N=120 X^2= 3.91 with 6 d.f. Significance= 0.68

APPENDIX 4.7

Doctors' Attendance at Medical Meetings in English - according to Doctcrs in Basic or Clinical Medicine

	Basic medicine	Clinical medicine
1. Have not attended	35.5% (11)	44.9% (40)
2. Have attended	64.5% (20)	52.8% (47)
3. Do not know	0.0% (0)	2.2% (2)

N= 120 X^2= 1.74 with 2 d.f. Significance= 0.41

APPENDIX 5.2

Percentage of Students Reading Medical Textbooks in English

1. ********* 27.7% (82)
   Do not read

2. ********** 72.3% (214)
   Read

(Total N=296)

APPENDIX 5.1 Pre-Medical, Medical, and Hospital Departments at Shimane Ika Daigaku (Shimane Medical University)

医学部医学科
School of Medicine

講座担当 Chairman Department for Medical Education		
解剖学	解剖学第一 Anatomy I	教授 田中 修 Prof. Osamu TANAKA
	解剖学第二 Anatomy II	教授 沖 充 Prof. Mitsuru OKI
生理学	生理学第一 Physiology I	教授 枡村純生 Prof. Sumio MASUMURA
	生理学第二 Physiology II	教授 前野 巍 Prof. Takashi MAENO
生化学	生化学第一 Biochemistry I	教授 下山 誠 Prof. Makoto SHIMOYAMA
	生化学第二 Biochemistry II	教授 田中 渥 Prof. Atsushi TANAKA
	薬理学 Pharmacology	教授 服部圭佑 Prof. Keisuke HATTORI
病理学	病理学第一 Pathology I	教授 森川 茂 Prof. Shigeru MORIKAWA
	病理学第二 Pathology II	教授 家森幸男 Prof. Yukio YAMORI
	微生物・免疫学 Microbiology and Immunology	教授 齋藤 肇 Prof. Hajime SAITO
	法医学 Legal Medicine	教授 福井有公 Prof. Yuko FUKUI
環境保健医学	環境保健医学第一 Environmental Medicine I	教授 多田 學 Prof. Manabu TADA
	環境保健医学第二 Environmental Medicine II	教授 山根洋右 Prof. Yosuke YAMANE
内科学	内科学第一 Internal Medicine I	教授 野手信哉 Prof. Shinya NOTE
	内科学第二 Internal Medicine II	教授 島田宜浩 Prof. Yoshihiro SHIMADA
	内科学第三 Internal Medicine III	教授 恒松徳五郎 Prof. Tokugoro TSUNEMATSU
	内科学第四 Internal Medicine IV	教授 森山勝利 Prof. Katsutoshi MORIYAMA
	皮膚科学 Dermatology	教授 地土井襄璽 Prof. Joji JIDOI
	小児科学 Pediatrics	教授 森 忠三 Prof. Chuzo MORI
外科学	外科学第一 Surgery I	教授 中瀬 明 Prof. Akira NAKASE
	外科学第二 Surgery II	教授 中村輝久 Prof. Teruhisa NAKAMURA
	整形外科学 Orthopaedics	教授 廣谷速人 Prof. Hayato HIROTANI
	脳神経外科学 Neurosurgery	教授 石川 進 Prof. Susumu ISHIKAWA
	泌尿器科学 Urology	教授 石部知行 Prof. Tomoyuki ISHIBE
	精神医学 Psychiatry	教授 石野博志 Prof. Hiroshi ISHINO
	産科婦人科学 Obstetrics and Gynecology	教授 北尾 學 Prof. Manabu KITAO
	耳鼻咽喉科学 Otorhinolaryngology	教授 涌谷忠雄 Prof. Tadao WAKUTANI
	眼科学 Ophthalmology	教授 瀬戸川朝一 Prof. Tomoichi SETOGAWA
	放射線医学 Radiology	教授 石田哲哉 Prof. Tetsuya ISHIDA
	麻酔学 Anesthesiology	教授 小坂義弘 Prof. Yoshihiro KOSAKA

学科目担当 Head of Departments Department for Gereral Education	
心理学 Psychology	教授 小滝信夫 Prof. Nobuo KODAKI
化学 Chemistry	教授 仲田富士徳 Prof. Fujinori NAKATA
生物学 Biology	教授 北田仁一 Prof. Iinichi KITADA
英語 English	教授 小林定義 Prof. Sadayoshi KOBAYASHI
ドイツ語 German	教授 黒川正巳 Prof. Masami KUROKAWA
歴史学 History	
経済学 Economics	
数学 Mathematics	
物理学 Phvsics	

医学部附属病院
University Hospital

病院長 Director	(併) 檜 學 Manabi HINOKI

診療・科 Clinical Departments	科長 Head of Departments	
内科	第1内科 Internal Medicine I	(併) 野手信哉 Shinya NOTE
	第2内科 Internal Medicine II	(併) 島田宜浩 Yoshihiro SHIMADA
	第3内科 Internal Medicine III	(併) 恒松徳五郎 Tokugoro TSUNEMATSU
	第4内科 Internal Medicine IV	(併) 森山勝利 Katsutoshi MORIYAMA
	皮膚科 Dermatology	(併) 地土井襄璽 Joji JIDOI
	小児科 Pediatrics	(併) 森 忠三 Chuzo MORI
外科	第1外科 Surgery I	(併) 中瀬 明 Akira NAKASE
	第2外科 Surgery II	(併) 中村輝久 Teruhisa NAKAMURA
	整形外科 Orthopaedics	(併) 廣谷速人 Hayato HIROTANI
	脳神経外科 Neurosurgery	(併) 石川 進 Susumu ISHIKAWA
	泌尿器科 Urology	(併) 石部知行 Tomoyuki ISHIBE
	精神科神経科 Psychiatry and Neurology	(併) 石野博志 Hiroshi ISHINO
	産科婦人科 Obstetrics and Gynecology	(併) 北尾 學 Manabu KITAO
	耳鼻咽喉科 Otorhinolaryngology	(併) 涌谷忠雄 Tadao WAKUTANI
	眼科 Ophthalmology	(併) 瀬戸川朝一 Tomoichi SETOGAWA
	放射線科 Radiology	(併) 石田哲哉 Tetsuya ISHIDA
	麻酔科 Anesthesiology	(併) 小坂義弘 Yoshihiro KOSAKA
	歯科口腔外科 Oral and Maxillofacial Surgery	教授 吉村安郎 Prof. Yasuro YOSHIMURA

APPENDIX 5.3 Computerised Hospital Record (Shimane Medical University Hospital)

Summary Sheet for Computer Service

NAME Kazunori Igarashi. Admission (1983. 8.23 - 1983. 9 .19)

PROBLEM LIST		Code
#-1	Unspecified viral hepatitis with hepatic coma.	070.6
#-2		
#-3		
#-4		
#-5		

	SYMPTOM	DATE onset, end	#1	#2	#3	#4	#5
S-1	fever.	830816-830918	+				
S-2	bad temper	830816-830907	+				
S-3	poor appetree	830904-830907	+				
S-4	coma.	830907-830914	+				
S-5							

	PHYSICAL FINDING						
P-1	Jaundice	830814-830919	+				
P-2	macroscopic hematuria	830823-830827	+				
P-3	generalized edema	830823-830919	+				
P-4	melena	830904-830919	+				
P-5	splenomegaly	830907-830912	+				
P-6	tremor	830907-830911	+				
P-7	hyperventilation	830907-830908	+				
P-8	hypersecretion	830904-830908	+				
P-9	Upper GI bleeding	830913-830919	+				
P-10	hypotension	830917-830919	+				

LABORATORY DATA		DATE onset, end	#1	#2	#3	#4	#5
L-1	hypoproteinemia (4.6 g/dl)	830817-830919	+				
L-2	hyperbilirubinemia (26.5 mg/dl)	830817-830919	+				
L-3	high GOT (1196)	830817-830919	+				
L-4	high GPT (2095)	830817-830919	+				
L-5	hyperammonemia (1058 μg/ml)	830817-830919	+				
L-6	low total cholesterol (43 mg/dl)	830817-830919	+				
L-7	low colin esterase (0.36 ΔpH)	830817-830919	+				
L-8	Prolonged PT	830817-830919	+				
L-9	prolonged APTT	830817-830919	+				
L-10	hypofibrinogenemia (< 10 mg/dl)	830824-830824	+				
L-11	respiratory alkalosis	830827-830919	+				
TREATMENT (OPERATION) (ANESTHESIA)							
T-1	exchange transfusions	830823-830917	+				
T-2	flesh whole blood transfusions	830904-830918	+				
T-3	antibiotics (CCET-KM-PIPC-AMK)	830823-830918	+				
T-4	fluid therapy (7.5%TZ-Vitamine BC)	830817-830919	+				
T-5	Vitamine K	830823-830918	+				
T-6	Steroid therapy	830907-830917	+				

BIOPSY (B) / AUTOPSY (A)	DATE	CODE
B,A-		
B,A-		
B,A-		
B,A-		
B,A-		

T-7	O_2 oxygen.	830909-830919	+
T-8	respirator.	830909-830919	+

APPENDIX 6.1 Medical English Schedule (1st Year/1st Semest.) at Kyōtō Furitsu Ika Daigaku (Kyōtō Prefectural Medical University), Kyoto.

ANATOMY: Andreas Vesalius (Marti-Ibañez, A Prelude to Medical History)
MICROBIOLOGY: The Problem of Hospital-Acquired Infections (Methold, Practice in Medical English)
PREVENTIVE MEDICINE: Plague in London (Pepys, Diary; Defoe, A Journal of the Plague Year)
INTERNAL MEDICINE: Anatomy of an Illness as Perceived by the Patient (The New England Journal of Medicine, Vol.295, No.26)
SURGERY: The Surgeon's Job (Newsweek, May 25, 1981)
MEDICINE AND ETHICS: When Doctors Play God (Newsweek, August 31, 1981)

Section	Contents	Types of English
I. Introduction (2 hours)	A. Medical English and 'General' English Compared B. Medical Dictionaries and 'General' English Dictionaries Compared	Orientation to Medical English
II. Medical Terminology (3 hours)	A. Where do medical terms come from? (Mythology, Literature, Eponyms, etc.) B. Word Parts (Suffixes, Prefixes, Combinations, etc.)	'Transitional'
III. Notable Names and Episodes (6 hours)	Hippocratic Physician, Medicine in the Middle Ages, Anesthesia, etc.	'General' English interspersed with medical terms
IV. Man Against Disease (5 hours)	Plague, Prevention and Eradication of Tuberculosis, Measles, etc.	Predominantly Medical
V. Medical Writings (3 hours)	A. Structure (Summary, Introduction, Materials and Method, Results, Discussion, etc.) B. Case Histories (Medical Charts, Discharge Summary,etc.)	Medical
VI. Medicine and Man (8 hours)	A. Medical Profession (Medical Education, Doctor-Patient Relationship, etc.) B. Medicine and the Modern World (Carcinogens, Stress, WHO, etc.) C. Medicine and Ethics (The Right to Live, The Right to Die, Hospice, Terminal Illness, etc.)	'General' and Medical

GENERAL BIBLIOGRAPHY

Allony-Fainberg, Yaffa. 1973. To what extent has the nomenclature appearing in the 'Dictionary of Automobile Terms' (DAT), published by the Academy of Hebrew Language, been accepted in the Hebrew written literature? The 1973 Salzman Award Paper of the Academy of Hebrew Language.

Allony-Fainberg, Yaffa. 1977. The influence of English on formal terminology in Hebrew. In Fishman et al. (Ed.). 1977.

Apley, H. 1977. (5th edition). System of Orthopaedics and Fractures. London: Butterworths.

Archiv fur Japanische Chirurgie. Kyōtō University Faculty of Medicine, Kyōtō.

Bailey, Richard W. and Manfred Gorlach. 1983. English as a World Language. Ann Arbor: University of Michigan Press.

Bailey, Richard W. and Jay Robinson. 1973. Varieties of Present-Day English. New York: Macmillan.

Barnett, Lincoln. 1970. History of the English Language. London: Sphere Books.

Baxter, James. 1980. Language in International Business: an annotatated bibliography. Hawaii: Culture Learning Institute, University of Hawaii.

Berger, John and Jean Mohr. 1978. A Fortunate Man. London: Penguin Books.

Bickley, Verner. 1982. The international uses of English: research in progress. In Brumfit (Ed.). 1982.

Brosnahan, L.F. 1963. The English Language in the World. Inaugural address, Victoria University of Wellington, New Zealand. (Mimeo: The British Council, London).

Brownell, John. 1967. Japan's Second Language. Champaigne Urbana: National Council for Teachers of English.

Buchan, Colin. 1980. English for Specific Purposes: JALT Conference paper (Kyoto, 1980). Reviewed in Maher, JALT Newsletter, 4, 2. by John Maher.

Brumfit, C. (Ed.). 1982. English for International Communication. Oxford: Pergamon.

Brumfit, C. 1977. Commonsense about ESP. In Problems and Principles in English Teaching, Holden (Ed.). Oxford: Pergamon.

Burling, Robbins. 1982. Sounding Right. Rowley: Newbury.

Bynon, T. 1977. Historical Linguistics. Cambridge: C.U.P.

Cains, John. 1552. A Boke or counseill against the diseas commonly called the sweate or sweatying sickness. London: Wellcome Library (Medical Manuscripts).

Campbell, J. 1979. Moral Dilemmas in Medicine. Tokyo: Maruzen/Harper Row.

Candlin, Christopher. 1978. Discoursal Patterning and the Equalising of Interpretive Opportunity. In English for Cross-Cultural Communication, Smith (Ed.). Macmillan.

Candlin, Christopher. 1982. English as an international language: intelligibility vs. interpretability. Notes on a theme. In English for International Communication, C.J. Brumfit (Ed.). Oxford: Pergamon.

Cassell, Ernest. 1979. The Healer's Art. London: Penguin.

Chūgai Iyaku (Medical Chugai). Tōkyō: Chugai Pharmaceuticals.

Conrad, Andrew and Joshua Fishman. 1977. English as a World Language: the evidence. In The Spread of English, Fishman, J. et al. New York: Newbury House.

Corder, S.P. 1966. Varieties of Language. Unpublished Paper, Department of Linguistics, Edinburgh.

Corder, S.P. 1973. Introducing Applied Linguistics. London: Penguin.

Cousins, N. 1979. Anatomy of an Illness. New York: Harper.

Cooper, R. 1982. Language Spread. New York: McGraw Hill.

Criper, Clive. 1976. Linguistics, Sociolinguistics and Current Trends in Communications-Based Syllabus. In Curriculum Development and Syllabus Design for Language, Wilson (Ed.). Singapore: Singapore University Press.

Criper, Clive and W.A. Dodds. 1984. Report on the Teaching of English in Tanzania. Overseas Development Agency.

Criper, C. and H. Widdowson. 1975. Sociolinguistics and Language Teaching. In The Edinburgh Course in Applied Linguistics, Allen and Corder (Eds.). Vol.2.

Croft, Kenneth and B. Brown. 1960. Science Readings for Students of English as a Second Language. New York: McGraw.

Dahl, R. 1982. Dahl's Tales of the Unexpected. Manchester: Granada/Penguin.

Dannatt, R.J. 1974. Primary Sources of Information. In Use of Medical Literature, Morton (Ed.). London: Butterworth.

Davies, Alan. 1968. Some Problems in the Use of Language Varieties, Educational Review, 20, 2.

Davies, Alan. 1969. The Notion of Register. Unpublished Manuscript, Department of Linguistics, Edinburgh.

Davies, Alan. 1985. (Personal Communication).

Defoe, Daniel. Journal of the Plague Year. Penguin Books (Reprinted 1978).

De Solla Price, D.J. 1978. Communication in Science. Baltimore: Little.

De Solla Price, D.J. 1963. Little Science, Big Science. New York: Columbia University Press.

Doi, Takeo. 1979. The Study of Language in Japan. Tokyo: Shinozaki Shorin.

Dore, R.P. 1958. City Life in Japan: A Study of a Tokyo Ward. London: Routledge.

Erikson, Frederick. 1976. "Gate-keeping" Encounters. The Harvard Educational Review, 53, 4.

Ewer, J. R. and G. Latorre. 1969. A Course in Basic Scientific English. London: Longman.

Fishman, J.A., R.L. Cooper and A.W. Conrad. 1977. The Spread of English: The Sociology of English as an Additional Language. Rowley: Newbury House.

Fromm, Eric. 1938. The Art of Loving. London: Allen.

Garfield, Eugene. 1980. Information Science and Language of Citation, Current Contents, 69, 4.

Gerr, S. 1944. Language and Science. Philosophy of Science, 9.

Goodman, S. and J. Gilman. 1980. A Pharmacological Basis of Therapeutics. London: Butterworths.

Greenbaum, Sidney. 1984. The English Language Today. Oxford: Pergamon.

Halliday, M.A.K. 1968. Relevant Models of Language. Educational Review, 22, 1.

Hardin, G.G. 1979. English as a language of international communication: a few implications from a national point of view. English Language Teaching, October, 34, 1.

Hardy, Thomas. To Please His Wife. Reprinted by Penguin Books (1979).

Harrison, S.S. 1979. Why they won't speak our language in Asia. Asia, March-April.

Haugen, E. 1950. The Analysis of Linguistic Borrowing. Language, 26.

Hindmarsh, R.X. 1978. English as an International Language. In English as an International Language, The British Council (Ed.). London: The British Council, ETIC.

Hiroshima Daigaku Igaku Zasshi (Medical Journal of Hiroshima University). Hiroshima University, Senda-machi.

Hiroshima Journal of Medical Sciences. Hiroshima University, Senda-machi, Hiroshima.

Hutchins, T. 1971. Choosin a Lingua Franca. Anthropological Linguistics, 14, 2.

Igaku Kyoiku (Medical Education). Tokyo University School of Medicine, Tokyo.

Igarashi, Jiro, et al. 1979. Teaching English in Japan. Tokyo: Eichosha.

Index Medicus, National Library of Medicine, Bethesda,U.S.A.

Isselbacker, J. et al. 1980. Principles of Internal Medicine.

Ireland, J. 1974. Letters to an Unborn Child. London: Allen.

J.A.M.A. (Journal of the American Medical Association), New York.

Johnstone, Bob. 1985. Yen for Basic Research in Cancer. New Scientist, 11 July.

Joos, Martin. 1961. The Five Clocks: A Linguistic Excursion in the Five Styles of English Usage. New York: Harcourt, Brace and World.

Journal of the Hiroshima Medical Association, Central (Chuo) Hospital, Hiroshima.

Genpaku, Sugita (translator). 1774. Kaitai Shinsho (New Book of Anatomy). Tokyo: National Library.

Genpaku, Sugita. 1773. Kaitai Yakuzu (Short Atlas of New Anatomy. Tokyo: National Library.

Kachru, B.B. 1975. Lexical innovations in South Asian English. International Journal of the Sociology of Language, 4.

Kachru, B.B. 1980. The pragmatics of non-native varieties of English. In Smith, L. (1979).

Kachru, B.B. 1977. The New English and Old Models. English Language Forum, July.

Kachru, B.B. 1983. The Other Tongue: English across other Cultures. London: Pergamon.

Kachru, B.B. and R. Quirk. 1981. Introduction. In L. Smith, (1981).

Kaplan, Robert. 1980. The Language Needs of Migrant Workers. London: Butterworths.

Katz, J.J. and P.M. Postal. 1964. An integrated theory of linguistic descriptions. Research Monographs, 26, MIT.

Keene, Donald. 1982. The Distinctiveness of the Japanese. Tokyo: Eichosha.

Kenkyusha English-Japanese/Japanese-English Dictionary.1978. Tokyo: Kenkyusha.

Kennedy, Chris. 1982. Language Planning. Language Teaching, 15, 3.

Kennedy, Chris. 1984. Language Planning and Language Education. London: Allen and Unwin.

Kitao, Kenji. 1980. English Education in Japan. JALT Newsletter, 4.6.

Kitao, Kenji. 1981. English Teaching in Japan. JALT Newsletter, 5, 7.

Kulmus, Adam. 1722. Anatomische Tabellen. Danzig.

Kurume Medical Journal, University of Kurume, Medical School. Fukuoka.

Kyoto Furitsu Ika Daigaku Zasshi (Journal of Kyoto Prefectural Medical University). Kyoto.

Ladefoged, Peter, Ruth Glick and Clive Criper. 1972. Language in Uganda. New York: Oxford University Press.

Labov, W. et al. 1968. A Study of the Non-Standard English of Negro and Puerto Rican Speakers in New York City. Final Report, Cooperative Research Project No.3288. New York: Columbia University.

Legett, T. 1980. England: The Quality of Life. Tokyo:Maru.

Lynd, Robert. 1972. The Little Angel. Tokyo: Maruzen.

Lynd, Robert. 1983. The Orange Tree. Tokyo: Maruzen

Ma, Eiko. 1959. Japan' Encounter with Western Medicine. Bulletin of the History of Medicine, 31.

Mesallem, E.A. 1984. English for Police Officers in Egypt. ESP Journal, 3, 2.

Maher, John. 1984. Peter Strevens: Teaching English as an International Language (Review). Applied Linguistics,5,1.

Maher, John. 1984. English Language Education in Japan: Historical and Macro Issues in the Teaching of English in Schools. Language Learning and Communication, 3,1.

Maeve, J. and F.P. O'Connor. 1981. Writing Scientific Papers in English. Amsterdam: Associated Publishers.

Mackay, R. and A. Mountford (Eds.). 1978. English for Special Purposes. London: Longman.

Mazrui, Ali. 1975. The Political Sociology of the English Language: An African Perspective. The Hague: Mouton.

Miller, Roy. 1967. The Japanese Language. Chicago: University of Chicago Press.

Moulds, Bouchier-Hayes, et al. 1982. PLAB MCQ Practice. London: Routledge.

Nakane, Chie. 1970. Japanese Society. London: Penguin

Nie, H. et al. 1970. Statistical Package for the Social Sciences (SPSS Update, 1979). New York: McGraw.

Nihon Hifugaku Zasshi (Japan Dermatological Journal). Tōkyo University, Tōkyo.

Nihon Igaku Toshokan Kyokai (Japan Medical Library Association). Kyōto Yearbook, 1983. Kyōto.

Nishi, Seiho. 1960. Waga Kuni Shoki no Kaibō (The beginnings of dissection in Japan). Nihon Iji Shimpō, no. 1867.

Nishimura, Hideo and Tsuio Amemiya. 1962. Yamawaki Tōyō Kanzō Nichino Konjaku (The present state and old condition of Yamawaki Tōyō's dissection place). Nippon Iji Shimpō, no. 1984.

O'Barr, William et al. 1979. Mediaspeak: the language of advertising. In Language in the Media. Richards, (Ed.). Chicago: Apple River Press.

Ogata, Tomio. 1961. Sen happyaku gojūshichi nen jūnigatsu jūninichi igo no Pompe (Pompe after November 12, 1857). In Nagasaki Daigaku Igakubu: Nagasaki Igaku Hyakunenshi (A hundred years' history of Nagasaki Medicine).Nagasaki: Nagasaki University Press.

Oka, H. 1983. Igakubu no Eigō Kyōiku (English language education in the Medical School). Igaku Kyoiku, 4,3.

Ōtori, Ranzaburō. 1955. Nippon igaku no shiteki kōsatsu (A historical study of Japanese medicine). Nisshin Igaku Kyōkai: Nippon Igaku no Hattatsu (The development of Japanese medicine). Nippon Igaku Hosha, Tokyo.

Ogden, Charles. 1942. Basic for Science. London: Allen.

Ogden, Charles. 1938. Basic English. London: Allen.

Palgrave, Sidney. 1978 (18th ed.). The Golden Treasury. Tokyo: Kenkyusha/Edward Arnold.

Petrucelli, R.J. and A.S. Lyons. 1979. Medicine: An Illustrated History. New York: Abrams.

Platt, J.T. 1977. The sub-varieties of Singapore English: their socio-lectal and functional status. In Crewe, 1977.

Prator, C.H. 1968. The British heresy in TESL. In Language Problems of Developing Nations, Fishman (Ed.). New York: Wiley.

Prator, C.H. 1975. The survey of English language use and language teaching in Eastern Africa in retrospect. In Language Surveys in Developing Nations, Ohannessian et al. (Ed.). Arlington: Center for Applied Linguistics.

Pressey, C. 1924. The use of 'scientific English'. Language, 18, 4.

Price, Janet. 1981. You're not too old to have a baby. London: Penguin.

Pride, J.B. 1982. New Englishes. Rowley: Newbury House.

Quirk, R. 1972. The English Language and Images of Matter. London: Longman.

Quirk, R. et al. 1972. A Grammar of Contemporary English. London: Longman

Quirk, R. 1978. Aspects of English as an International Language. Sproglaereren, 9.

Quirk, R. 1982. International Communication and the Concept of Nuclear English. In Brumfit (Ed.).

Read, Margaret. 1966. Cornell Health Team Report: Document No. 45 (Navajo Field Studies). New York: Cornell University Press.

Reports of the Aeromedical Laboratory. Japan Self-Defence Agency, Tokyo.

Rosenbaum et al. 1977. English on Keren Kayamet Street. In Fishman, (Ed.), 1977.

Reischauer, E. 1980. The Japanese. Tokyo: Charles Tuttle.

Rubin, J. and B.H. Jernudd. (Eds.). 1971. Can Language Be Planned? Honolulu: University of Hawaii.

Rubin, J. et al. 1977. Language Planning Processes. The Hague: Mouton.

Sager, J. et al. 1980. English Special Languages. Wiesbaden: Oscar Brandstetter Verlag.

Samarin, William. 1962. Lingua Francas with special reference to Africa. The Study of the role of 2nd languages in Asia, Africa and Latin America. Rice (Ed). Center for Applied Linguistics, Arlington.

Savory, T. 1960. Adapting the Vulgar Tongue. Special Supplement on the Tercentenary of the Royal Society,19.

Shaw, W. and B. Jernudd. (In preparation). World Maps of Use of English and other Languages of Wider Communication. Honolulu: University of Hawaii.

Shimane Journal of Medical Science. Izumo, Shimane.

Shimane Ken Shiritsu Chūei Byoin Igaku Zasshi.(Medical Journal of the Central Prefectural Hospital). Izumo.

Shippen, Katherine. 1979. Men of Medicine. Tokyo: Maruzen.

Smith, L. 1976. English as an international auxiliary language. RELC Journal, 7, 1.

Smith, L. 1978. Some distinctive features of EIIL vs. ESOL in English language education. Cultural Learning Institute Report, 5, 3.

Smith, L. 1983. Readings in English as an International Language. Oxford: Pergamon.

Spencer, J. 1971. The English Language in West Africa. London: Longman.

Strevens, P. 1977. English for Special Purposes: an analysis and a survey. Language for special purposes: Studies in Language Learning, 2, 1. Cowan, (Ed.).

Strevens, P. 1978. English as an International Language: when is a local form of English a suitable target for ELT purposes? English as an International Language, British Council ETIC.

Strevens, P. 1978. Special-Purpose Language Teaching: a perspective. Language Teaching and Linguistics, Kinsella (Ed.). London: CILT.

Strevens, P. 1979. Forms of English: an analysis of the variables. English for International Communication, Smith (Ed.). London: Macmillan.

Strevens, P. 1980. Teaching English as an International Language. Oxford: Pergamon.

Strevens, P. 1985. The Creation of a Regularised Sub-Set of English for Mandatory Use in Maritime Communication: Seaspeak. Language Planning Newsletter (forthcoming).

Stewart, W.A. 1962. An outline of linguistic typology for describing multilingualism. In Rice, (Ed.) Study of the Role of Second Languages. Washington: C.A.L.

Tashima, Kiyoshi. 1976. English in Japan. UCLA Workpapers, Vol.10, June

Takashima, J. 1980. The Education of the Japanese Physician. Igaku Kyoiku, 34, 3.

Time Magazine. 1983. English, English, Everywhere. November.

Thorndike, E. 1921. The Teacher's Word Book. New York.

Trudgill, P. 1984. Review of 'The Other Tongue: English across cultures', Kachru (Ed.). B.A.A.L. Newsletter, Spring.

Trimble, L., L. Selinker, and R.B.Vroman. 1976. Presupposition and technical rhetoric. ELT Journal, 29,1.

Trimble, L. et al. 1978. English for Specific Purposes: Science and Technology. Oregon: Oregon State U.

UNESCO. 1953. The Use of Vernacular Languages in Education. Paris.

Ueno, Kagefuku. 1968. Seiyō Gairaigo (Western loanwords).

Nihon no Eigaku Hyakunen (One hundred years of English Studies in Japan), (Ed.). Tōkyō: Nihon no Eigaku Hyakunen Henshūbu.

Vongvipand, Peansiri. (Forthcoming) with Smith, L. Campbell, and A. Haque. Survey of Institutions Teaching English for International Communication. Honolulu: East-West Center.

Vancouver Style. British Medical Journal Guidelines for the Preparation of Publication Manuscripts. Occasional Issues.

Warren, J. 1981. English in Scientific Communication. The Foreign-Born Professional. Mower (Ed.). Chicago: Chicago University Press.

Weeks, F.F. 1982. Communications at Sea. In Brumfit, (Ed.). 1982.

Whitely, W.H.W. 1973. Sociolinguistic surveys at the national level. In Sociolinguistic Aspects of Language Learning and Teaching, Pride (Ed.). Oxford: Oxford University Press.

WHO Directory of Medical Schools: 1953/54; 1957; 1970; 1975. Paris: WHO.

Widdowson, H. 1978. (Preface to Focus: Medicine, Maclean).

Widdowson, H. 1982. English as an International Language II: What do we mean by "International Language". In Brumfit (Ed.). 1982.

West, Michael. 1953. A General Service List of English Words with semantic frequencies and a supplementary word list from the writing of popular science and technology. London: Heinemann.

White, R.V. 1974. The Concept of Register and TESL. The TESOL Quarterly, 8, 4: 401-416.

Yamamoto, Shoso. 1981. The Role of Mast Cells in Inflammation. Nihon Hifugaku Gakkai Zasshi (Japan Dermatological Association Journal), 91, 13: 1666-71.

Youth Development Headquarters, The Prime Minister's Office. 1977. Kodomo Taishō ni shita Chōsa, I. (The First Survey of Children). Tōkyō: Monbushō.

English in Medicine: an Interactive Classified Bibliography

Introduction

This is a bibliography for researchers and teachers in the field of English as a language of communication in medicine. Within the framework of the thesis, this bibliography is designed to provide a comprehensive documentation of sources on:

(1) The teaching of English for medical purposes

(2) English as an international language on medicine

(3) Related areas such as medical sociolinguistics.

The bibliography is computerised (VAX/VMS) so that items can be added and retrieved automatically from a master direct access file. To date, the master file contains 610 records. The bibliography is classified according to a series of categories to facilitate ease of recognition and retrieval. The TYPE categories are:

(M) Teaching materials for EMP

(A) Course descriptions, articles on EMP methodology, EMP profiles of local medical situations, etc.

(C) Medical communication studies including sociolinguistics, semiotics, discourse analysis, medical writing, etc.

(R) Reference works such as English and multilingual medical dictionaries.

ITEM categories inform the user whether the record is applicable mainly to doctors, dentists, nurses,

hospital/paramedical staff or patients; whether the record is EFL, ESL or vernacular oriented. All categories are listed below.

There is a listing of EM-OP teaching materials (E) which deal with learners of English for academic purposes (mainly medical students) and EM-OP materials, largely for doctors in professional circumstance (e.g. on the wards, presenting papers, etc.). Also listed are references to medical English testing, medical English terminology and abbreviations.

There are classifications for various languages. This means that where a reference is based on or related to a language other than English then that language is identified (e.g. Russian, Chinese, Dutch, Japanese, etc.).

N.B. The bibliography is here listed in author alphabetical order. There is an appended listing of all items relevant to Japan and the Japanese language:

MJA AJA CJA RJA

following the main listing.

This bibliography can be distinguished from the "General Bibliography" by its focus on 'medical English' or 'English for Medical Purposes'. The general bibliography lists all references outside the EMP field and which appear in the text.

The specialised bibliography can be accessed in the Department of Linguistics at the University of Edinburgh. The password for access is lodged in the Medical English Resource Centre of the Institute for Applied Language Studies.

References in the text appear in one of the two bibliographies. To find a reference it is therefore necessary to check both bibliographies (i.e. 'General' and 'EMP').

Classification of items

TYPE categories

1. M EMP pedagogical materials: textbooks, audio-visual etc.
2. A EMP course descriptions, articles on methodology, etc.
3. C medical communication: sociolinguistics, discourse analysis, register, medical writing, 'style', studies in medical education, medical terminology.
3. R reference: English, bilingual, multilingual dictionaries, books of idioms, abbreviations.

ITEM categories

1. N nurses
2. P doctors and medical students
3. L lay persons, patients
4. D dentists
5. H hospital and paramedical staff

6. S ESL (English as a second language) oriented
7. F EFL (English as a foreign language) oriented
8. V vernacular (English) oriented

9. O EM-OP (English for medical - occupational purposes)
10. E EM-EP (English for medical - educational purposes)

11. T testing
12. Y terminology

13. SO medical sociolinguistics: discourse analysis, semiotics, ethnomethodology, register analysis, dialect, history of medical language

14. CE communication and education: theoretical studies on medical writing, medical style, speaking at medical meetings, communication between doctors and patients, overseas doctors in the UK/U.S.A.

15. DV medical dictionaries in English ('vernacular')

16. DM multilingual dictionaries

17. DY idioms, terminology dictionaries

18. DB abbreviations

19. AR arabic

20. FR french

21. GE german

22. IT italian

23. SP spanish

24. FI finnish

25. PO polish

26. RU rumanian

27. JA japanese

28. YU Yugoslav

28. VI vietnamese

30. CZ czechoslovak

31. PR portuguese

31. SW swedish

32. PE persian

33. ES esperanto

34. RU russian

35. LA latin

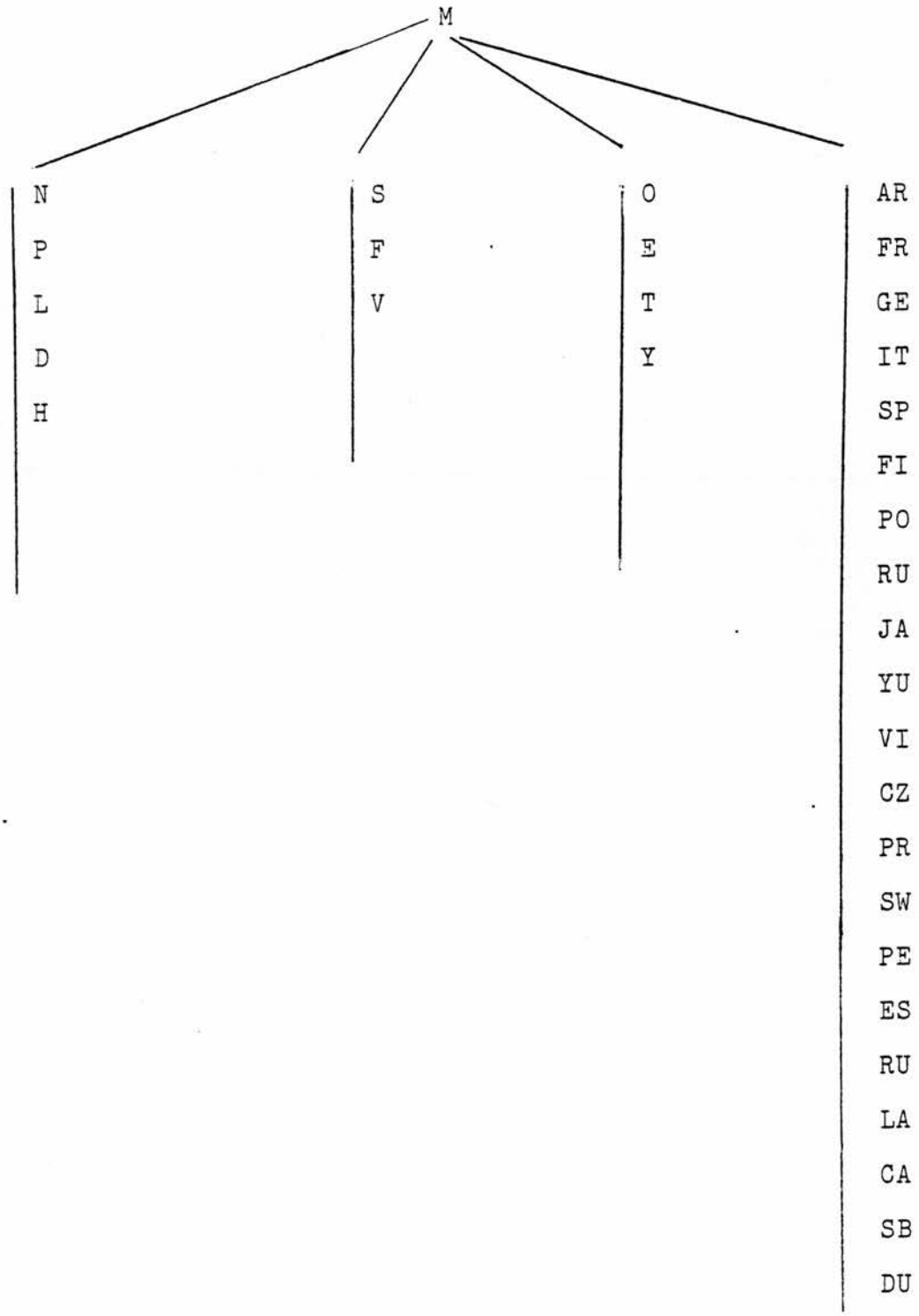
36. CA catalan

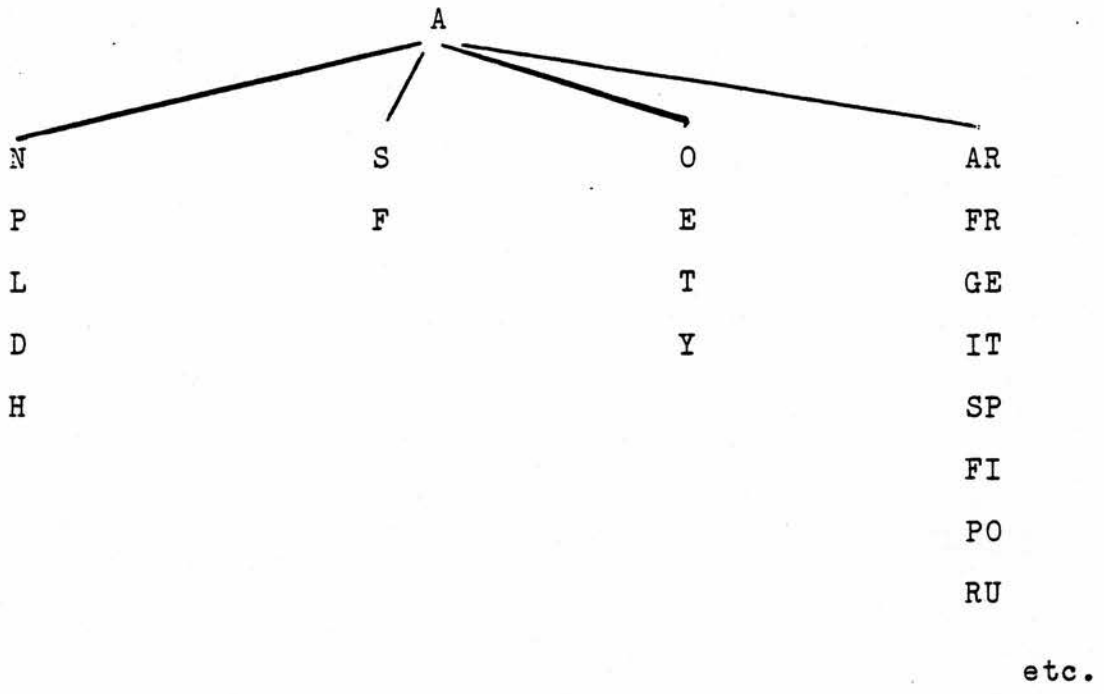
37. SB serbo-croat

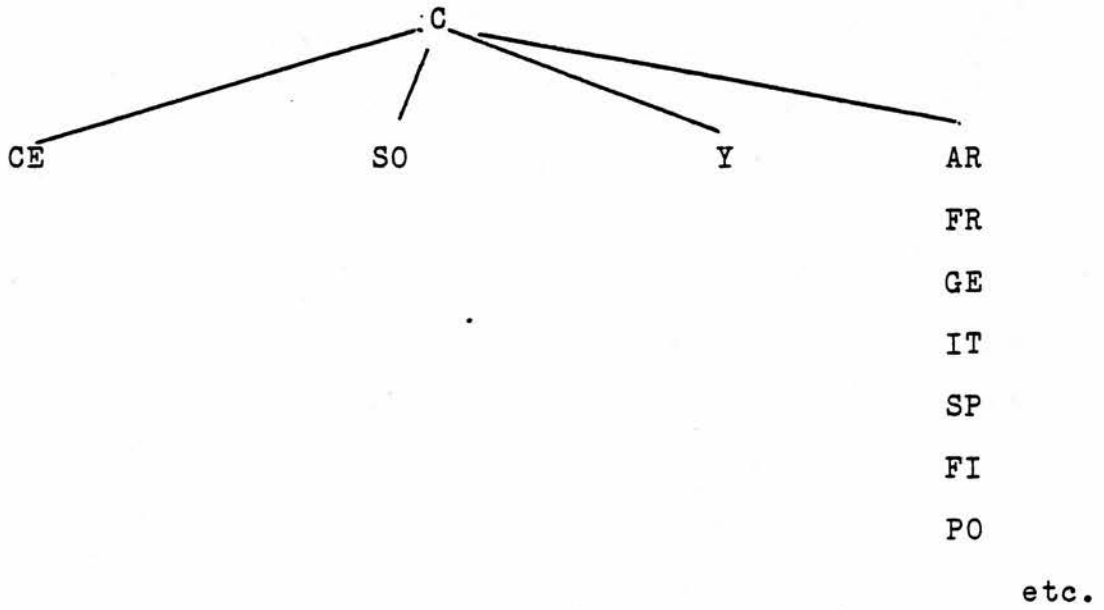
38. DU dutch

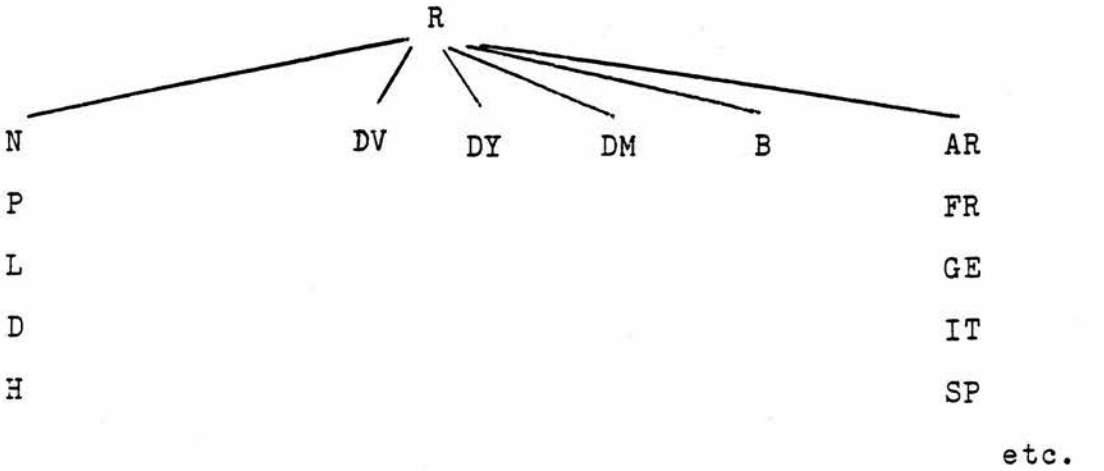
CLASSIFICATION MATRIX

English in Medicine




A
N
P
L
D
H
S
F
O
E
T
Y
AR
FR
GE
IT
SP
FI
PO
RU
etc.


C
CE
SO
Y
AR
FR
GE
IT
SP
FI
PO
etc.


R
N
P
L
D
H
DV
DY
DM
B
AR
FR
GE
IT
SP
etc.

A.M.A. (American Medical Association) 1981.

Manual for Authors and Editors: Editorial Style and Manuscript Preparation.
Los Altos, California: Lange Medical Publications.

M MP MV MO

Adams, M. 1983.

Balliere's Midwives' Dictionary.

Balliere: London.

R RDV RN

Adams-Smith, D. 1984.

Medical Discourse: Aspects of Author's Comment.

The ESP Journal, 13, 1: 23-24.

A AP AF AO

Adams-Smith, D. 1984.

Data Collection and ESP Course Design for Paramedical Students in Kuwait.
ESPEMA Bulletin, 17.

A AP AF AE AAR

Adams-Smith, Diana. 1978.

How to Locate Information: Medical Journals.

ESPEMA Bulletin, 12, Winter.

A AP AF AO

Adams-Smith, Diana. 1978.

The Acquisition of Technical Vocabulary.

Al Manakh, 3, 1.

A AP AF AY

Adams-Smith, Diana. 1979.

Cooperative Teaching: Bridging the Gap between E and SP.

ELT Documents: Team Teaching in ESP.
London: ETIC Publications, The British Council.

A AP AF AE

Adams-Smith, Diana. 1979.

The English Language Needs of Paramedical Staff in Kuwait.

Al Manakh, 3, 2.

A AH AF AO AAR

Adams-Smith, Diana. 1979.

Review of 'English in the Medical Laboratory'.

ESP Newsletter, December.

A AP AF AO

Asard, W. R. and H. M. Howe. 1955.

Medical Greek and Latin at a Glance.

New York: Hoeber-Harper.

DY DGR DLA

Albert, Pamela and John Olsen. 1985.

Colloquium on Teaching English in the Medical and Pharmaceutical Fields.
EMP Newsletter, Vol.2, No.1: 25-26.

A AF AP AE

Alderson, Dick and Vivienne Ward. 1979.

English Tests for Doctors.

Middlesex, London: Thomas Nelson.

M MP MF MT

Allwright, J. and R. Allwright. 1977.

An Approach to the Teaching of Medical English.

English for Specific Purposes. S. Holden (ed).
London: Modern English Publications.

A AP AF AO

Anderson, J.I. n.d.

The Lexical Difficulties of English Medical Discourse for Egyptian Students.
(Mimeo)
Birmingham: Language Studies Unit, University of Aston.

A AP AF AE AAR

Antonietti, G. et al. 1970.

L'Anglais dans les sciences medicales. 1970.

Paris: Colin.

M MP MF MO MFR

Aphek, E., Z. Bergman, and Y. Tobin. 1982.

The Role of Word Systems in the Language of Family Therapy in Hebrew Speaking Families in the State of Israel.
Pragmatics and LSP. Hoedt et al. (Eds.).
Copenhagen School of Economics.

C CSO CHE

Atkinson, P. and C. Heath (Eds.). 1981.

Medical Work: Realities and Routines.

Farnborough: Gower.

C CCE

Austin, David and Tim Crosfield. 1974.

English for Nurses.

London: Longman.

M MN MF MO

American University - Beirut. n.d.

Beginning Level Audio Visual EFL for Paramedical Trainees.

Beirut, Lebanon: C.E.L.R.T. American University, Beirut.

M MP MH MF ME MAR

Andrews, S. 1980.

English for Doctors: The Use of Role and Cue Cards to Practise Transmediation and Recoding.
ESPEMA Bulletin, 15.

A AP AF AE

Aoki, Teruaki. 1983.

Kokusai Igakkai no Tame no Eikaiwa (English Conversation for the International Medical Congress).
Tokyo: Medical View Publishers.

M MP MF MO MJA

Asher, R.A. 1972.

Making Sense.

London: Methuen.

C CCE

AU-VID, Inc. n.d.

Medical Terminology: a package of units, cassettes and accompanying text.
Garden Grove: California.

M MP MV MY

Austin, David and Tim Crosfield. 1974.

English in Hospital.

Stockholm: Hermods.

M MP MH MF MO MSW

Bain, D. J. 1977

Patient Knowledge and the Content of the Consultation in General Practice.
Journal of Medical Education, 11: 347-50.

C CCE

Bain, D.J. 1976.

Doctor-Patient Communication in General Practice Consultations.

Medical Education, 10:125-131.

C CCE

Bal, Pash. 1981.

Dealing with the Disadvantaged: Communicating with non-English-Speaking Patients.
British Medical Journal, August 11, Vol. 283: 368-69.

A AP AS AO

Balint, E. and J. Novell. 1973.

Six Minutes for the Patient: Interactions in Practice Consultation.
London: Tavistock (Social Sciences).

C CCE

Barbee, R.A., S. Feldman and C.W. Chosy. 1967.

The Quantitative Evaluation of Performance in the Medical Interview
Journal of Medical Education, 42:238.

C CCE

Barlow, D.T. 1973.

British General Practice.

London: H. K. Lewis.

C CCE

Barron, C. S. 1980.

Communicative English in the Institute of Medicine.

B.E.L.T. (Bulletin for English Language Teachers), 3: 10-18.

A AP AF AO

Bart, P.B. 1968.

Social Structure and Vocabularies of Discomfort: What happened to female hysteria ?
Journal of Health and Social Behaviour, 9:188-193.

C CSO

Basmajian, J. V. 1964.

Quality in Scientific Writing.

The Canadian Medical Association Journal, 90, May: 1121-25.

C CCE

Beasley, D. and G.A. Davis. (Eds.). 1981.

Aging Communication Processes and Disorders.

New York: Grune and Stratton.

C CSO

Becker, N. 1978.

Textanswahl fur den Fachsprachenunterrricht.

Werkstattgesprach Kairo: Fachsprachen. von Faber and Echtermeyer (Eds): 45-54.
Munchen: Goethe-Institut.

C CSO CGE

Beitler, L. and B. MacDonald. 1982.

English for the Medical Professions.

New York: McGraw Hill.

M MP MS MO

Bernthal, Patricia and James Spiller. 1981.

Understanding the Language of Medicine in English: a programmed learning text.
New York: Oxford University Press.

M MP MV MY

Bett, Walter. 1952.

The Preparation and Writing of Medical Papers for Publication.

London: Henley and James.

C CCE

Bird, Brian. 1955.

Talking with Patients.

London: Pitman Medical Publishing.

M MP MV MO

Bird, Charles. 1985.

Talking to the Aged: Towards the Integration of an Interactional Component in Training Programmes.
M.Phil. Optional Paper. Department of Linguistics, University of Cambridge.

C CSO

Bird, Norman. 1984.

Etymology and the Teaching of Vocabulary to Medical Students.

English for Specific Purposes, September, 90.

A AP AF AE AY

Blake, J. B. 1971.

Literary Style in American Medical Writing.

Journal of the American Medical Association (J.A.M.A.), 216: 77-80.

C CCE

Blodi, Frederick. 1976.

On the Creation of New Terms.

Archives of Opthalmology, 94:1701.

C CSO

Bloom, Gretchen. 1976.

The Language of Hospital Services.

New York: Regents Publishing Company.

M MP MH MS MO

Bloom, Gretchen. 1982.

The Language of Medicine in English.

New York: Regents Publishing Company.

M MP MS MO

Blue Cross Association. 1975.

Foreign Language Guide to Health Care: English - French - German - Italian - Spanish.
Chicago, Illinois: Blue Cross Association.

M MP MS MO MFR MGE MIT MSP

Blum, Lucille Hollander. 1972.

Reading Between the Lines: Doctor-Patient Communication.

Baltimore, Maryland: Williams and Wilkins.

C CSO

Boler, S. 1977.

A Report on the King Faisal University Communication in English Skills Project.
London: The British Council.

A AP AF AE AAR

Bollo, L. E. 1961.

An Introduction to Medicine and Medical Terminology.

Philadelphia: W. H. Saunders.

R RDY

Bolton Speak/Teach English Project. (n.d.).

Appointment at the Ante-natal Clinic.
Mother and Baby Clinic.
Bolton C.R.C.: Room 8, Civic Centre, Le Mans Crescent, Bolton, U.K.

M ML MS

Bonnano, Michelina. 1982.

Women's Language in the Medical Interview.

Linguistics and the Professions. Robert Di Pietro (Ed.). New Jersey: Ablex Publishing Corporation.

C CSO

Boucher, Carl. 1974.

Currrent Clinical Dental Terminology: A Glossary of Accepted Terms in All Disciplines of Dentistry.
St. Louis: Mosby.

R RDY D

Boyle, C.M. 1970.

Difference between Patients' and Doctors' Interpretations of some Common Medical Terms.
British Medical Journal, 2:286-9.

C CCE

Bradford Bolton Road Centre for Language and Literacy.

Asian Readers: Booking in at the Ante-Natal Clinic, Mrs Worth Has a Baby, Bottlefeeding.
Bradford 8, Manningham: B.R.C.L.L.

M ML MS

Brasnett, Clive. 1976.

English for Medical Students.

London: Methuen.

M MP MF ME

Brelsforth, P. 1982.

An Investigation into the Use of Non-Verbal Devices in Six Medical English Textbooks published between 1971 and 1979. (Mimeo).
Birmingham: Language Studies Unit, Aston University.

A AP AF AE

Brelsforth, Pamela. 1984.

In-Service English for Nurses: A Report of a Pilot Study in Kuwait.
English for Specific Purposes, September, 90.

A AN AF AO AAR

Brelsforth, Pamela. 1984.

Review of 'Understanding Medical Terms: a Self-Instructional Course'.
EMP Newsletter, 1, 2, 24-26.

A AP AF AY

British Broadcasting Corporation. n.d.

The Scientist Speaks. No.7: Smallpox.

London: BBC Publications.

M MP MF ME

British Broadcasting Corporation. n.d.

The Scientist Speaks. No.13: Food Preservation.

London: BBC Publications.

M MP MF ME

British Council. n.d.

Authentic Materials (tapes). No.25: Medical Case Histories.

London: British Council.

M MP MF ME

British Council. n.d.

Authentic Materials (tapes). No.27: General Medical Practitioner Interview.

London: British Council.

M MP MF ME

Britton, Earl. 1959.

The Particiole in Medical Writing.

The University of Michigan Medical Bulletin, 30, March.

C CCE

Brody, Eugene et al. 1971.

Intellectual and Emotional Problems of Foreign Residents: Psychiatric Theory and Practice.

Psychiatry, 34, August.

C CCE

Bross, Eugene et al. 1971.

Linguistic Habits of Scientists.

Perspectives in Biology and Medicine, 3, 4: 322-346.

C CSO

Bross, I. 1963.

Linguistic Habits of Scientists.

Perspectives in Biology and Medicine, 6, 3: 322-346.

C CSO

Brown, A. A. 1982.

Medical Crossword Puzzles.

New York: Arco Publishing Inc.

M MV MP ME

Bruce, D.L. 1963.

A Public Speaking Course for Foreign Medical Graduates.

Anesthesiology, 41, October.

A AP AS AE

Bruce, Nigel and C. Nuttal. 1984.

Shooting First: A Pragmatic Approach to ESP Programme Development.

English for Specific Purposes, September, 90.

A AP AF AE

Bruce, Nigel. (Ed.). (Bi-annual).

EMP (English for Medical and Paramedical Purposes) Newsletter.

Kuwait: Medical Study Skills Division, Health Sciences Centre.

A AP AF AE

Bruce, Nigel. 1984.

Rhetorical Constraints and Information Structure in Medical Research Report Writing.

EMP Newsletter, 1, 2: 5-18.

C CSO

Bullard, Nicholas. 1981.

An Approach to the Teaching of English for Participation in Medical Conferences.

Recherches et Echanges, 6, 2.

A AP AF AE AFR

Burton, Jill I. 1980.

Proposals for a Language Proficiency Test for Dentists from Overseas.
M.A. Research Design in Language Learning and Testing Project.
Lancaster: Institute for English Language Education,
University of Lancaster.

A AD AS AT

Bush, Laurel and Mark Shackleton. 1981

Spoken English and Listening Comprehension for Dental Students.

Helsinki: University of Helsinki Language Center..

M MD MF ME MFI

Bush, Laurel. 1981.

Spoken English and Listening Comprehension for Medical Students.

Helsinki: University of Helsinki Language Center.

M MP MF ME MFI

Bush, Laurel. 1981.

Spoken English and Listening Comprehension for Veterinary Medicine.
Helsinki: University of Helsinki Language Center.

M MP MF ME MFI

Bush, Laurel. 1984.

Spoken English and Listening Comprehension for Dental Students.

Helsinki: University of Helsinki Language Center.

M MD MF ME MFI

Butler, R. 1980.

Sources of the Medical Vocabulary.

Journal of Medical Education, 55, 2.

C CSO

Butt, H. R. 1977.

A Method for Better Physician-Patient Communication.

Annals of Internal Medicine, 86:478-80.

C CEE

Byrne, P. 1976.

Teaching and Learning Verbal Behaviours.

Language and Communication in General Practice. Tanner (Ed.).
London: Hodder and Stoughton.

S CSO

Byrne, P. and B. Long. 1976.

Doctors Talking to Patients.

London: H.M.S.O. (Her Majesty's Stationary Office)

C CSO

Byrne, P. and B. Long. 1984.

Doctors Talking to Doctors.

London: Royal College of General Practitioners.

C CSO

C. I. Organisation of Medical Sciences. 1967.

The Planning of International Meetings.

Union of International Publication.

C CCE

Calderdale Unit, West Yorkshire Language Link. n.d.

Sakina Goes to the Ante-Natal Hospital.
Sakina Goes into Hospital.
Bradford: Bolton Road Centre.

M ML MS

Calnan, J. 1983.

Talking with Patients.

London: Heinemann.

C CCE

Calnan, James and Andras Barabas. 1972.

Speaking at Medical Meetings - a Practical Guide.

London: Heinemann.

M MP MV MO

Calnan, James and Andras Barabas. 1973.

Writing Medical Papers.

London: Heinemann.

M MP MV MO

Calnan, James and Brenda Monks. 1975.

How to Speak and Write: A Practical Guide for Nurses.

London: Heinemann.

M MN MV MO

Canadian Medical Association. 1980.

Uniform Requirements for Manuscripts submitted to Biomedical Journals.
Canadian Medical Association Journal, 123, December.

C CCE

Candill, W. et al. 1952

Social Structure and Interaction Processes on a Psychiatric Ward.
American Journal of Orthopsychiatry, 22, April.

C CSO

Candlin, Christopher et al. 1977.

Doctor-Patient Communication Skills (DOPACS): Vols.1 & 2. 1977.

Chelmsford, England: Graves Medical Audio-Visual Library.

M MP MS MO

Candlin, Christopher, C.J. Bruton and J.H. Leather. 1976.

Doctors in Casualty: Applying Communicative Competence to Components of Specialist Course Design.
International Review of Applied Linguistics, 3, 3.

A AP AS AO

Candlin, Christopher, et al. 1977.

Doctor Speech Functions in Casualty Consultations: Some Quantified Characteristics of Discourse in a Regulated Setting.
Proceedings of the III AILA World Congress. G. Nickel (Ed.).
Stuttgart: Hochschulverlag.

C CSO

Candlin, Christopher, et al. 1981.

Designing Modular Materials for Communicative Learning: An Example: Doctor-Patient Communication Skills.
English for Academic and Technical Purposes: Studies in Honor of Louis Trimble. L. Selinker, E. Tarone, and V. Hanzali (Eds.).

A AP AS AO

Candlin, Christopher, J. Burton, and Hewel Coleman. 1980.

Dentist-Patient Communication: A Report to the General Dental Council.
Lancaster: Institute for English Language Education, University of Lancaster.

A AD AS AO

Candlin, Christopher, J. Burton, and Hewel Coleman. 1980.

Evaluating the Communicative Proficiency of Overseas Dentists: Annex to the General Dental Council Report.
Lancaster: Institute for English Language Education, University of Lancaster.

A AD AS AT

Carsill, D. 1968.

Communication between Doctors and Patients.

Proceedings of the Royal Society of Medicine, 61: 563-5

C CCE

Cassell, E.J., L. Skopek, and B. Fraser. 1976.

A Preliminary Model for the Examination of Doctor-Patient Communication.
Language Sciences, 43

C CSO

Cassidy, L. and T. Wasatsuma. 1982.

Isha no Tame no Jitsuyo Eikaiwa (English Conversation for Physicians).
Tokyo: Medical View Publishers.

M MP MF MO MJA

Castled, Paul. (Ed). 1982.

Fusion Scientific English Readers: Medicine.

London: Harw Glasgow.

M MP MF ME

Chamberlain, R.G. and M.K. Flanagan. 1977.

Developing a Flexible Programme Design.

ELT Documents: English for Specific Purposes.
London: ETIC Publications, The British Council.

A AP AF AO

Char, Walter. 1971.

The Foreign Resident: an ambivalently valued object.

Psychiatry, 34, August.

C CCE

Charles Press, The. 1984.

The Charles Press Handbook of Current Medical Abbreviations.

London: The Charles Press.

R RDB

Chernin, Eli. 1981.

First Do No Harm.

Coping With Biomedical Literature. Warren (Ed.). 49-65.

C CCE

Chibisova, O. and L. Kzar. 1981.

English-Russian Biological Dictionary.

New York: Pergamon.

R RDM RRU

Chirnside, Anne. 1985.

Talking English for Specific Purposes.

EMP Newsletter, Vol.2, No.1: 15-21.

A AF AP AN AE AAR

Christman, L. P. 1965.

Nurse-Physician Communication in the Hospital.
Happened to Female Hysteria ?
Journal of the American Medical Association, 194, 539.

C CCE

Christy, N.P. 1967.

The Twenty-Seventh Anniversary and Some Thoughts on Isolation.

Journal of Clinical Endocrinology and Metabolism, 27: 1778-83.

C CCE

Cicourel, A. V. 1981.

Language and Medicine.

Language in the U.S.A. C. Ferguson and S. Heath (Eds.).
New York: Cambridge University Press.

C CSO

Cicourel, Aaron. 1982.

Language and Belief in a Medical Setting.

Georgetown University Round Table on Languages and Linguistics, 48-78.

C CSO

Cole, Frank. 1972.

Guide to Medical Reports.

Flushing, New York: Medical Examination Publishing Co.

M MP MV MO

Coleman, Hywel, C. Candlin and Jill Burton. 1983.

Dentist-Patient Communication: Communicating Complaint.

Sociolinguistics and Language Acquisition. Wolfson, Nessa, Judd (Eds.).
Rowley: Newbury House.

C CSO

Coleman, Hywel. 1975.

Talking Shop: An Overview of Language and Work.

International Journal of the Sociology of Language: The Health Professions, 5: 105-129.

C CSO

Collan, Y. et al. 1974.

Medical English for Finnish Doctors.

British Medical Journal, 1, March.

A AP AF AO AFI

Cicourel, A. V. 1982.

Language and the Structure of Belief in Medical Communication.

Proceedings II of AILA 81 Lectures. Ben Sigurd and Jan Svartik (Eds.).
Studia Linguistica, 35, 1-2.

C CSO

Cieclerska, J., B. Jenike and K. Tudruj. 1982.

English for Medicine.

Warsaw: Pzwl.

M MP MF ME MPO

Coleman, Hywel and Jill Burton. 1985.

Dentist-Patient Communication: Communicating Complaint.

TESOL and Sociolinguistics. Wolfson and Judd (Eds.).
Rowley, Mass.: Newbury House.

C CSO

Coleman, Hywel. (Ed.). 1985.

Language and Work 2: The Health Professions: The International Journal of the Sociology of Language.
The Hague: Mouton.

C CSO

Coleman, Hywel. 1980.

Evaluating the Communicative Proficiency of Overseas Dentists.

Practical Papers in English Language Education, 3.
University of Lancaster.

A AD AS AT

Collander-Brown, Pam, and Cathy Norris. 1982.

EFP - The English of Family Planning.

EFL Gazette, 26, January.

A AL AS AO

Colley, Jenny. 1982.

English and Medicine (Review of Parkinson, 1978).

EFL Gazette, 26, January.

A AP AF AO

Collins, Anne. 1983.

Integrating Groupwork with Medics Materials.

KAAU ELC Occasional Papers, 1.
Saudi Arabia, KAAU Press.

A AP AF AO AAR

Community Relations Commission: Reference and Community Series. 1976.
Doctors from Overseas: A Case for Consultation.

London: Reference Service, 9, June.

A AP AS AO

Consalton, A. A. 1979.

Public Evaluation of Medical Care.

Medical Journal of Australia, 2: 1165-72.

C CCE

Cooper, E. Y. 1980.

The Language of Medicine.

New York: Van Rostrand Reinhold.

C CSO CY

Cortese, Giuseppina. 1977.

Readings in English as a Second Language for Medical Students.

Torino: Libreria Corlino.

M MP MF ME MIT

Coude, Claire and Francois-Xavier Coude. 1982.

L'Anglais Medical.

Paris: Flammarion.

M MP MF MO MFR

Coulthard, M. and M. Ashby. 1975.

Talking with the Doctor.

Journal of Communication, 25: 140-48.

C CSO

Coulthard, R.M. and M. Ashby. 1976.

A Linguistic Description of Doctor-Patient Interviews.

Studies in Everyday Life. Wadsworth and Robinson (Eds.).
London: Robertson.

C CSO

Coventry Community Education Project. n.d.

Talkback Series: The Health Visitor Comes to the House (Pack 1).
Going to the Clinic (Reader).
C.C.E.P. Southfields, South Street, Coventry, CV1 5EJ, U.K.

M ML MS

Cowan, Bauman et al.1975.

English for Medical Students - a reader in technical English for students of English as a foreign language. Vols.1 & 2.
Tehran: Tehran University Press.

M MP MF ME MPE

Cox, M. 1972.

Problems of Overseas Nurses Training in Britain.

International Nursing Review, 19, 2.

A AN AS AO

Craddock, F.W. 1962.

Dental Writing.

Bristol: John Wright.

M MD MV MO

Cross, Louise M. 1959.

The Preparation of Medical Literature.

London: Pitman.

C CCE

Crystal, David. 1976.

The Diagnosis of Sociolinguistic Problems in Doctor-Patient Interaction.
Language and Communication in General Practice. Tanner (Ed.).
London: Hodder and Stoughton.

C CSO

Currie, William, Gillian Sturtridge and Jean Allwright. 1974.

A Technique for Teaching Medical English.

Proceedings of the Third International Congress of Applied Linguistics.
Heidelberg: Groos.

A AP AF AO

Curtis, Robert H. 1976.

Medical Talk for Beginners.

New York: Julian Messner.

M MP MV MO

Dallas, D. 1971.

Nursing (Special English Series).

New York: Collier-Macmillan.

M MN MF MO

Dangott, L., B. Thornton, P. Page. 1978.

Communication and Pain

Journal of Communication, Winter.

C CCE

Danilevicius, Zenonas. 1974.

Medical Journal in Esperanto.

Journal of American Medical Association, 228, 8, May.

C CSO CES

Dannatt, R. J. 1974.

Primary Sources of Information.

Use of Medical Literature. Morton (Ed.).
London: Butterworths.

C CCE

Dasso, M., L. Antler and H. Rusk. 1978.

The Foreign Medical Resident training in the United States.

Annals of Internal Medicine, 18: 1105-1113.

A AO AS AE

Davis, Alan. (Ed.) 1978.

Relationships Between Doctors and Patients.

Tewkfield, England: Saxon House.

C CCE

Davis, P. M. 1969.

Medical Terminology in Hospital Practice: A Guide for all those engaged in Professions allied to Medicine.
London: Heinemann Medical Books.

M MH MV MY

Davis, P. M. 1974.

Medical Terminology in Hospital Practice.

London: Heinemann.

M MP MV MO MY

de Matos, Dr. 1977.

Professional English Program. Vol.1. Biomedical Sciences.

Sao Paulo: Centro de Linguistica Aplicado do Instituto de Idioma

M MP MF MO MPR

DeBakey, L. 1965.

Instruction in Scientific Communication.

Journal of Medical Education, 40:928.

C CCE

DeBakey, L. 1966.

Language and the Physician.

Archives of Surgery, 92: 964-972.

C CCE

DeBakey, L. 1967.

Competent Medical Exposition: The Need and the Attainment.

Bulletin of the American College of Surgeons, 52, 85

C CCE

DeBakey, L. 1968.

Releasing Literary Inhibitions in Scientific Reporting.

Canadian Medical Association Journal, 99, 360.

C CCE

DeBakey, L. 1970.

Every Careless Word That Men Can Utter. 1: The English Language.

Anesthesia and Analgesia, 49, 837.

C CCE

DeBakey, L. 1975.

Ethics and Etiquette in Biomedical Communication.

Perspectives in Biological Medicine, 18: 522-540.

C CCE

DeBakey, Lois. 1976.

The Scientific Journal: Editorial Policies and Practices - Guidelines for Editors, Reviewers and Authors.
St. Louis: Mosby.

C CCE

DeBakey, Selma. 1960.

Mediums of Medical Communication.

Journal of the Albert Einstein Medical Centre, 8, October, 60.

C CCE

Deesan, D. and C.O. Ritchie. n.d.

The Communication Skills in English: King Faisal University, College of Medicine and Medical Sciences.
ELI Monthly, 16.
King Faisal University, Damman, Saudi Arabia.

A AP AF AE AAR

Del Guercio, Louis. 1972.

Multilingual Manual for Medical History-Taking.

Boston: Little, Borwn.

M MP MS MO MSP MFR MGE MIT

Delorme, Ludmilla. 1981.

The Use of Drama Techniques in Courses in L.S.P. with particular Reference to the Teaching of Medical English.
Pragmatics and LSP. Hoedt, Lundquist, Picht, Qvistgaard (Eds.).
Copenhagen.

A AP AF AO

Delorme, S. 1960.

Use of Drama Techniques and Games in LSP with Particular Reference to the Teaching of Medical English.
Pragmatics and LSP. Hoedt et al. (Eds.).
Copenhagen School of Economics.

A AP AF AE

Dent, John. 1977.

What's Happening in Medicine ?

London: Longman.

M MP MF ME

Diab, Turki, and Tony Crocker. 1985.

Profile: Jordan.

ENP Newsletter, Vol.2, No.1: 3-6.

A AF AP AN AE AAR

Diab, Turki. 1983.

Linguistic Analysis as an Input to the Thinking behind ESP Materials Selection for Medical and Nursing Students with Particular Reference to the Jordanian Situation.
M.SC. Dissertation, University of Aston, Birmingham.

A AN AP AF AE AAR

Dirckx, John H. 1976.

The Language of Medicine: Its Evolution, Structure and Dynamics.

New York: Harper and Row.

C CSO CY

Dollery, C.T. 1973.

Meetings.

British Medical Journal, 4:406.

C CCE

Dubois, Betty Lou. 1980.

The Use of Slides in Biomedical Speeches.

ESP Journal, 1, 1.

A AP AF AO

Dubois, Betty Lou. 1982.

Function of Intonation Contours in Biomedical Speeches.

(Ms) University of Aston, Birmingham: Language Studies Unit.

C CSO

Dubois, Betty-Lou. 1981.

And the Last Slide Please - Regulatory Language Function at Biomedical Meetings.
World Language English, 1, 4.

C CSO

Dubois, Betty-Lou. 1981.

Nontechnical Arguments in Biomedical Speeches.

Perspectives in Biology and Medicine, 24, 3.

C CSO

Dubois, Betty-Lou. 1981.

The Construction of Noun Phrases in Biomedical Journal Articles.

Pragmatics and LSP. Hoedt et al. (Eds.).
Copenhagen School of Economics.

C CSO

Dudley, H. 1977.

The Presentation of Original Work in Medicine and Biology.

London: Churchill Livingstone.

C CCE

Duffy, D., D. Hamerman, and M.Cohen. 1980.

Communication Skills of House Officers.

Annals of Internal Medicine, 93: 354-7.

C CCE

Earle, Floyd and Charles Johnson. 1971.

Comprehension Training to Improve Pronunciation for Physicians.

English Teaching Forum, 9, 6.

A AP AF AO

Ebizuka, H. and Y. Kaneda with the American Association for the Advancement of Science.1978.

Igaku Eigo no Yomikata (Reading Medical English).

Tokyo: Asahi Press.

M MP MF ME MJA

Editor.

Controversies in Medical Communication.

New England Journal of Medicine, 271:67.

C CCE

Editorial. 1972.

Nurses for Overseas.

The Lancet, 2, 7790.

A AN AS AO

Editorial. 1973.

Overseas Nurses in Britain.

Health and Social Services Journal, LXXXIII, 4318.

A AN AS AO

Editorial. 1981.

Language Requirements for Overseas Doctors.

The Lancet, 1: 621.

A AP AS AO

Education Council for Foreign Medical Graduates. 1969.

Medical Examination Review Book. Parts 1 & 2.

Flushing, New York: Medical Examination Publishing Co.

M MP MS MT

Educational Commission for Foreign Medical Graduates. 1975.

A Summary of Contents and Observations made by Participants of the Medical Orientation Section of the ECFMG Orientation Conference.
Philadelphia: ECFMG Conference Report.

A AP AS AT

Educational Commission for Foreign Medical Graduates. 1975.

Communication/Orientation: A Model Program for Foreign Medical Graduates.
Philadelphia: ECFMG Conference Report.

A AP AS AT

Educational Commission for Foreign Medical Graduates. 1976.

Introducing the U.S.A. to Foreign Medical Graduates: Guidelines and Resources.
Philadelphia: ECFMG.

A AP AS AT

Educational Commission for Foreign Medical Graduates. 1984.

ECFMG Examination Review.

Philadelphia: Medical Examination Publishing Company.

A AP AS AT

Educational Commission for Foreign Medical Graduates. 1985.
(Annual Issue)
Information Bulletin on the ECFMG Examination.

Philadelphia: ECFMG.

A AP AS AT

Edwards, M.

Communication Changes in Elderly People.

Monograph No.3: The College of Speech Therapists.

C CSO

Edwards, Paula J. 1974.

Teaching Specialist English (with special reference to English for Nurses and Midwives in Niseria).
English Language Teaching Journal, 28, 3, April.

A AN AF AO

Edwards, Pauletta. 1980.

Know Your Nursing English.

London: Hutchinson.

M MN MS MO

Ehrlich, Ann. 1977.

The Medical and Health Sciences Word Book.

Boston: Houghton Miffin.

M MP MV MY

Eisenschitz, T. et al. 1978.

Poster Session as a Medium of Scientific Communication.

Journal of Research in Communication Studies, 1: 235-242.

C CCE

Eizo, Toguri. 1963.

Eibun Karute no Kakikata (How to Write Case History Notes in English).
Tokyo: Bunkodo.

M MP MF MO MJA

Elder, R. 1965.

What is the Patient Saying ?

Social Interaction and Patient Care. Slappi and Leonard (Eds.).
Philadelphia: Lippincott.

C CCE

Ellis, D., J. Hopkin, A. Leitch and J. Crofton. 1979.

Doctors' Orders: Controlled Trial of Supplementary Written Information for Patients.
British Medical Journal, 1:456.

C CCE

Elsevir. 1975.

Elsevir's Dictionary of Public Health: English - French - Italian - Dutch - German.
Amsterdam: Elsevir Publishing Company.

R RDM RFR RIT RDU RGE

Elsevir. 1976.

Elsevir's Medical Dictionary: English - French - Italian - German - Spanish. 1976.
Amsterdam: Elsevir Publishing Company.

R RDM RFR RIT FGE FSP

Enelow, A. J. and S. N. Swisher. 1979.

Interviewing and Patient Care.

New York: Oxford University Press.

C CCE

English Language Services, Inc. 1984.

Medicine (Practical Surgery).

New York: Macmillan.

M MP MS MO

Escandon, Ralph. 1982.

Bilingual Vocabulary for the Medical Profession: English - Spanish.
Cincinnati, Ohio: Southwestern Publishing Co.

M MP MS MY MSP

Evans, Joseph. 1970.

Notes on the Foreign Medical Graduate Problem in North America.

British Journal of Medical Education, 4: 249-251.

A AP AS AE

Fanning, P. 1976.

Review of 'Practice in Medical English' (Methold and Methold).

ESPEMA Bulletin, 9.

A AP AF AE

Fanning, P. and J. Swales. 1975.

Review of 'English in Basic Medical Science' (Maclean).

ESPEMA Bulletin, 3.

A AP AF AE

English Language Services Inc. 1984.

Medicine (Practical Medicine).

New York: Macmillan.

M MP MS MO

English Language Services. 1966.

Special English: Medicine. Books 1,2,3.

New York: Collier Macmillan.

M MP MS MO

Essex-Lopresti, M. 1980.

Illuminating an Address: A Guide for Speakers at Medical Meetings.
Medical Education, 14, 1.

C CCE

Fairpo, J. and C. Fairpo. 1980.

Heinemann Dictionary for Dental Students.

London: Heinemann.

R RDV RD

Fanning, P. 1977.

Review of 'English for Medical Students' (Brasnett).

ESPEMA Bulletin, 9.

A AP AF AE

Fanning, Paul. 1981.

Background to English in the Medical Laboratory.

ESP Newsletter, February.

A AP AF AO

Ferguson, A.B. and J.H. Kerr. 1970.

Explain it to the Doctor.

Philadelphia: Lippincott.

M ML MV

Fielding, Guy and Chris Evered. 1980.

The Influence of Speech upon Doctors: the Diagnostic.

The Social and Psychological Contexts of Language. St.Clair and Giles (Ed.).
New Jersey: Erlbaum.

C CSO

Fincham, Monica. 1982.

Hospital Communication.

Issues in ESP: Lancaster Practical Papers in English Language Education, Vol. 5. Oxford: Pergamon.

A AV AN AO

Firth, J. R. 1959.

The Treatment of Language in General Linguistics.

The Medical Press, 242: 146-7. Reprinted in Palmer (Ed.). Selected Papers of J.R. Firth. (1968): 206-209. Indiana.

C CSO

Fishbein, M. (5th Ed).

Medical Writing: The Technique and Art.

Springfield, Illinois: Charles Thomas.

M MP MV MO

Fisher, Sue. 1982.

The Decision-Making Context: How Doctors and Patients Communicate.

Linguistics and the Professions. Robert di Pietro (Ed.).
New Jersey: Ablex Publishing Corporation.

C CSO

Fletcher, C. 1980.

Listening and Talking to Patients.

British Medical Journal, 2: 845-7, 944-6, 1056-8.

C CCE

Fletcher, C. 1980.

Listening and Talking to Patients: I. The Problem.

The British Medical Journal, 2: 845-847.

C CCE

Fletcher, C. 1980.

Listening and Talking to Patients: II. The Clinical Interview.

The British Medical Journal, 2: 931-3.

C CCE

Fletcher, C. 1980.

Listening and Talking to Patients: III. The Exposition.

The British Medical Journal, 2:994-6.

C CCE

Fletcher, C. 1980.

Listening and Talking to Patients. IV. Some Special Problems.

The British Medical Journal, 1056-8.

C CCE

Fletcher, C. M. 1973.

Communication in Medicine.

Nuffield Provincial Hospitals Trust, 3 Prince Albert Road, London NW 7SP.

C CCE

Fletcher, C. M. 1979.

Towards Better Practice and Teaching of Communication between Doctors and Patients.
Mixed Communications. McLachlan, (Ed.).
London: Oxford University Press.

C CCE

Florent, Jill. 1981.

English in the Medical Laboratory.

ESP Journal, February.

A AP AF AO

Ford, J. C. 1976.

A Linguistic Analysis of Doctor-Patient Communication Problems.

Ph.D. Dissertation. Georgetown University.

C CSO

Foucault, Michel. 1975.

The Birth of the Clinic: An Archeology of Medical Perception.
(Trans. A.M. Sheridan).
London: Tavistock.

C CSO

Fox, C. H. and Folke Meijer. 1980.

Teaching Medical English to Foreign-Language Doctors.

Medical Education, 14: 316-319.

A AP AF AO ASW

Fox, C. H. and Folke Meijer. 1980.

Teaching Medical English to Foreign-Language Doctors.

Medical Education, 14: 316-319.

A AP AF ASW

Fraser, C. 1976.

An Analysis of Face to Face Communication.

Communication between Doctors and Patients. Bennett, (Ed.).
London: Oxford University Press for the Nuffield Provincial Hospitals Trust.

C CCE

Freeling, Paul. 1976.

Interactions in Small Groups.

Language and Communication in General Practice. Tanner (Ed.).
London: Hodder and Stoughton.

C CSO

Freeman, R.T. 1973.

Report on a Summer Course in Medical and Engineering English.
University of Alexandria.
London: British Council.

A AP AF AE AAR

Froelich, R.E. 1969.

A Course in Medical Interviewing.

Journal of Medical Education, 44: 1165.

C CCE

Froelich, Robert and F. Marian Bishop. 1977.

Clinical Interviewing Skills.

St.Louis: Mosby.

C CS

Fujita, Takuo. 1970.

Eibun Byoreki no Yomikata (How to Read Clinical Histories in English).
Tokyo: Nanzando.

M MP MF MO MJA

Gale, Janet and Philip Marsden. 1985.

Teaching the Diagnostic Thinking Process: Current Approaches.

EMP Newsletter, Vol.2, No.1: 7-14.

C CCE

Gannon, Robert and Pamela Brelsforth. 1985.

Review of Ewan and White's 'Teaching Nursing: a self-instructional manual. 1984.
EMP Newsletter, Vol.2, No.1: 27-29.

A AF AN AE

Gannon, Robert and Pamela Brelsforth. 1985.

Review of Porritt's 'Communication: Choices for Nurses'. 1984.

EMP Newsletter, Vol.2, No.1: 29-30.

A AF AN AE

Garber, A. and Leroy Sparks. 1977.

Learn-a-Term: A Course in Medical Terminology.

German Town MD: Aspen/Maruzen.

M MP MV MY

Garfinkel, H. 1967.

'Good' Organisational Reasons for 'Bad' Clinic Records.

Studies in Ethnomethodology. Garfinkel. 186-208.
New York: Prentice-Hall.

C CSO

Garland, J. 1963.

The Printed Word.

Journal of Medical Education, 38: 292-299.

C CCE

Geoppert, Sebastian. 1974.

Pragmalinguische Ansatze in Psychotherapien und Psychoanalysen.

Linguistische Berichte, 31, June: 31-40.

C CSO CGE

Giles, H. 1970.

Research on Accents.

The Lancet, May 16: 1046.

C CSO

Golden, J.S. and C. Johnson. 1970.

Problems of Distortion in Doctor-Patient Communications.

Psychiatric Medicine, 1: 127-149.

C CSO

Gordon, B. L. (Ed.). 1980.

Current Medical Information and Technology.

Chicago: American Medical Association.

C CCE CY

Gosewisch, Ron. 1985.

Review of 'Practical Surgery', Berman et al.

The Language Teacher (The Japan Association of Language Teachers), IX, 4: 36.

A AP AF AO AJA

Graf, R. et al. 1977.

Encyclopedia of Biomedical Terms.

Tokyo: Maruzen/Reston/Prentice-Hall.

R RDV

Gregg, A. 1943.

Language and the Practice of Medicine.

Diplomate, 15: 115-122.

C CSO

Hadzi-Jovancic, D. 1976.

Certain Rhetorical Aspects of Medical Discourse.

Proceedings of the 4th International Congress of Applied Linguistics. Nickel (Ed.).
Stuttgart: Hochschulverlag.

C CSO CSB

Haisman, P. and B. Muller. 1974.

Glossary of Clinical Chemistry Terms.

London: Butterworth.

R RDV

Halliday, W. J. 1971.

Glossary of Immunological Terms.

London: Butterworths,.

R RDY

Harada, Tetsuo and T. Tamura. 1960.

Isaku Ishi Yakugaku Eigo Ronbun Saho (How to Write Pharmacological Papers in English for Medical Doctors).
Tokuo: Kyodo Isho.

M MP MF MO MJA

Harper, D.L . 1974.

English for Foreign Doctors and Civil Servants.

Teaching Languages to Adults for Special Purposes.
B. Perren (Ed.). CILT Reports and Papers, 11.
London: CILT.

A AP AF AO

Hawkes and Galvez, n.d.

A Course in Spoken English for Pharmacy Students.

Universidad National de Trujillo ESP Project.

M MP MF ME MSP

Hawkin, C. 1964.

Speaking at Medical Meetings.

The Lancet, February 1: 261-263.

C CCE

Hawkins, Clifford. 1967.

Speaking and Writing in Medicine.

Philadelphia: Thomas Publishing Co.

C CS

Heath, Christian. 1981.

The Opening Sequence in Doctor-Patient Interaction.

Medical Work. Atkinson and Heath (Eds.).
Farnborough: Gower.

C CCE

Heath, Christian. 1985.

The Consultation's End: the Coordination of Speech and Body Movement.
International Journal of the Sociology of Language: The Health Professions, 51: 27-42.

C CSO

Hein, E. 1978.

Communication in Nursing Practice.

Boston: Little, Brown.

C CCE

Henley, Alix. 1975.

English Language in Hospital.

Language Teaching and Community Relations, 2, 2.

A AH AS AO

Hewitt, R.M. 1938.

Better Medical Writing: Some Typical Errors and How to Avoid Them.
Journal of Urology, 40: 454-463.

C CCE

Hill, Patricia. 1982.

English and Medicine. Review of O'Brien et al.1979.

EFL Gazette, 26. January.

A AP AF AO

Hinks, M. D. 1973.

The Language Barrier: Some Problems of the Overseas Student Nurse.
London: The Kings Fund Centre, Reprint no. 782.

C CCE CN

Hirschorn, Howard. 1968.

English-Spanish Medical Guide.

New York: Simon Schuster.

M MP MS MO MSP

Hoffman, I. 1970.

Fachwortschatz Medizin: Haufigkeitsworterbuch - Russisch, Englisch, Franzosisch.
Leipzig: VEB (Verlag Enzyclopadie).

R RDY RRU RFR

Holmstrom, Ingrid. 1970.

Medical English.

Stockholm: Laromedelsforlagen Sprakforlaget.

M MP MF ME MSW

Honeyfield, J. 1976.

Review of Maclean, 1975.

RELC Journal, 7, 1.

A AP AF AO

Hope, R. A. and J. M. Longmore. 1985.

The Oxford Handbook of Clinical Medicine.

Oxford: Oxford University Press.

R RDV

Horvatovic, R. 1966.

Engelski zu Medicinare Farmaceute i Stomatologie.

Belgrade: Zavod za Izdavanje Udzbenika, Socialisticke Republike Srbije

M MP MF ME MYU

Horzella, Maria and Angela Labanca. 1974.

English for Medicine.

Departamento de Estudios Humanisticos, Sede Occidente, Universidad de Chile.

M MP MF ME MSP

Horzella, Maria. 1977.

English Course for Medical Students.

English for Specific Purposes: International Latin American Seminar, Bogota.
London: The British Council.

A AP AF AE ASP

Howard, Joanna. 1981.

Preventive Medicine.

London: Heinemann Educational Books.

M MH MV ME

Howie, T.W. 1976.

Writing and Speaking in Medicine: How I Read.

British Medical Journal, 6: 113-114.

C CCE

Hudson, K. 1979.

The Jargon of the Professions.
(pp 27 - 34).
London: Macmillan.

C CSO

Hussey, Hugh H. 1976.

Word Origins.

Journal of the American Medical Association, 236, 19, Nov.

C CSO

Isaku Shoin. 1977.

Watanabe's Pocket Medical Dictionary: English - German - French - Latin - Japanese.
Tokyo: Isaku Shoin.

R RDM RGE RFR RLA RJA

Inglefinger, F. 1974.

On Medical Writing.

New England Journal of Medicine, 292, 19.

C CCE

International Anatomical Nomenclature Committee. 1960.

Nomina Anatomica.

Amsterdam: Excerpta Medica Foundation.

R RDY

International Center in New York. n.d.

Glossary of American Idioms for Foreign Medical Personnel.

New York: The International Center in New York, Inc. 745, Seventh Ave., New York, N.Y. 10019.

R RDY

Iriuchijima, Jiro. 1979.

Isaku Eigo Bunreishu (Medical English Style).

Tokyo: Chusai Isakusha.

M MP MF MO MJA

Jaeger, E. C. 1953.

A Source Book of Medical Terms.

Springfield, Illinois: Thomas.

R RDY

Jasfeldt, Astrid et al. 1972.

People in Action: Nursing. Vol.1.

Stockholm: Esselte Studium.

M MN MF MO MSW

Jasfeldt, Astrid et al. 1976.

People in Action: Nursing. Vol.2.

Stockholm: Esselte Studium.

M MN MF MO MSW

Jasfeldt, Astrid, Stig Jasfeldt, Tina Pierce Samuelson.1975.

People in Action: Caring for the Young.

Stockholm: Esselte Studium.

M MN MF MO MSW

Johnson, Diane and John Murray. 1985.

Do Doctors Really Mean What They Say ?

Fair of Speech: The Uses of Euphemism. D. J. Enright (Ed.). pp. 151-158. Oxford: Oxford University Press.

C CSO

Johnson, Diane. 1980.

Doctor Talk.

The State of the Language. Michaels and Ricks (Eds.): 396-399. Berkeley: University of California Press.

C CSO

Johnston, M. 1976.

Communication of Patients' Feelings in Hospital.

Communication between Doctors and Patients. Bennet (Ed.).

C CCE

Jonas, J.R. 1967.

Auxiliaries Help with Smooth 'Adjustment' Path for Foreign Doctors and their Families.
Auxiliary Leader, 8, October: 21-22.

C CCE

Jonke-Gajer, Ivana, and Zora Rehnicer. 1965.

Engleski za Medicinskeskole: English for Nurses. Part 4.

British Council Library, London.

M MN MF ME MCZ

Jordan, Edwin and W. Shephard. 1952.

Rx for Medical Writing: A Useful Guide to Principles and Practice of Effective Scientific Writing and Illustration.
Philadelphia: Saunders.

M MP MV MO

Joubert, P. and L. Lasagana. 1975.

Patient Package Inserts: (1) Nature, Notions and Needs.

Clinical Pharmacology and Therapy, 18: 507-13.

C CCE

Kahn, J. 1972.

Communication with Children and Parents.

British Medical Journal, 3: 406-8.

C CSO

Kahn, J. 1978.

A Diagnostic Semiotic.

Semiotica, 22: 75-106.

C CSO

Kahn, J. 1983.

Modes of Medical Instruction: A Semiotic Interpretation of Textbooks and Popular Home Medical Books.
Approaches to Semiotics, 65: Mouton.

C CSO

Kale, Karen. 1975.

Course Description: Brazilian Medical English Program.

Brattlebro,Vermont: The School for International Training. The Experiment in International Living.

A AP AF AO APR

Kalin, Rudolf. 1982.

The Social Significance of Speech in Medical, Legal and Occupational Settings.
Attitudes Towards Language Variation. Ryan and Giles (Eds.): 148-163.

C CSO

Kalin, Rudolf. 1982.

The Social Significance of Speech in Medical, Legal and Occupational Settings.
Attitudes Towards Language Variation. Ryan, Ellen and Giles, Howard. (Eds.), 148-163.
London: Edward Arnold.

C CSO

Kanehara Shuppan. 1977.

Medical Terminology: Japanese - Latin - English - German - French.
Tokyo: Kanehara Shuppan.

R RDM RJA RLA RGE RFR

Kasner, K. and D. Tindall. 1984.

Bailliere's Nurses Dictionary.

London: Bailliere.

R RDV RN

Kass, Edward H. 1981.

Reviewing Reviews.

Coping With The Biomedical Literature. Warren (Ed.). 79-81.

C CCE

Kaw, M. 1977.

Southwestern Medical Dictionary: Spanish - English and English - Spanish.
Tucson: University of Arizona Press.

R RDM RSP

Kelz, Rochelle. 1977.

Conversational Spanish for Medical Personnel.

New York: Wiley.

M MH MS MO MSP

Kendall, M.N. 1973.

Overseas Nursing Students in Britain.

Nursing Times, 69, 37, September.

A AN AS AO

Kimball, C. P. 1971.

Medicine and Dialects.

Annals of Internal Medicine, 74: 137-139.

C CSO

King, L. 1978.

Why not Say it Clearly.

Maryland: Little and Brown.

C CCE

King, P. 1975.

The CSE Programme for Medical Students at KAUU (King Abdul Aziz University) and the Science or Language Dilemma.
English for Specific Purposes.
London: ETIC Publications, The British Council.

A AP AF AE AAR

Kings Fund Project Paper. 1974.

The Language Barrier and the Overseas Nurse Trainee.

Kings Fund Centre, 24 Nutford Place, London W1H 6AN

C CCE CN

Kinpodo. 1964.

Medical Terminology for Nurses: Japanese - English - German - Latin.
Tokyo: Kinpodo Press.

R RDY RN RJA RGE RLA

Kirley, E. and B. Gray-Richards. 1983.

English for the Health Sciences: A Special Project Report.

Vancouver Community College, Vancouver, Canada.

C CCE

Klein, Rudolf. 1982.

The Social Significance of Speech in Medical, Legal and Occupational Settings.
Attitudes towards Language Variation: The Social Psychology of Language.
London: Arnold.

C CSO

Knowles, T., M. McCarthy and M. Shackleton. 1983.

Medical English.

London: Macmillan.

M MP MF ME

Kobayashi, T. 1972.

Isaku Eigo Kanyo Hyogen Shu (Glossary of Medical English Expressions).
Tokyo: Bunkodo.

M MP MF MJA

Korsch, Barbara, and M.J. Morris. 1969.

Gaps in Doctor-Patient Communication: Patient Response to Medical Advice.
New England Journal of Medicine, 280: 66-74.

C CSO

Korsch, Barbara, E.K. Gozzi and V. Francis. 1968.

Gaps in Doctor-Patient Interaction and Patient Satisfaction.

Pediatrics, 42: 855-871.

C CSO

Kourilova, Magda. 1979.

Teaching English for Specific Purposes.

British Medical Journal, 2, August.

A AP AF AE ACZ

Kourilova, Magda. 1984.

Anglictina pre Studentov Lekarskych Facult.

Bratislava: Vysokoskolske Skripta, Univerzita Komenskeho.

M MP MF ME MCZ

Kraft, A. K. 1976.

Oral Presentations at Surgical Meetings.

Journal of Surgical Research, 20: 376.

C CCE

Krochmal, Tony. 1984.

Survey Review: Textbook for ESP/ Nursing Science.

ESP Journal, 13: 61-73.

A AN AF AO

Kupferschmidt, H. G. et al. 1968.

Englische fur Mediziner.

Leipzig: VEB.

M MP MF MY MGE

Kupferschmidt, H. G. et al. 1975.

Medizin: Englisch Lehrtexte und Ubungen fur Sprachunterreicht an Universitaten, Hochschulen und Akademien.
Leipzig: VEB.

M MP MF ME MGE

Lachowicz, Donald J. 1981.

Using Medical English. Vol.1.

Medical English Project, American Medical Association: Department of Languages, University of Saigon, Saigon.

M MP MF ME MVI

Lakoff, Robin. 1980.

When Talk is not Cheap.

The State of the Language. Michaels and Ricks (Eds.): 440-448.
Berkeley: University of California Press.

C CSO

Lane, Nancy and Kathrun Kammerer. 1975.

Writers Guide to Medical Journals.

Philadelphia: J.B. Lippincott.

M MP MV MO

Law, J. and H. Oliver. 1973.

Glossary of Histopathological Terms.

London: Butterworths.

R RDY

Leading Article. 1978.

Patient Package Inserts.

British Medical Journal, 3: 586.

C CCE

Labov, W. and D. Fanshel.1977.

Therapeutic Discourse.

New York: Academic Press.

C CSO

Lacoste, Michele. 1980.

La Vie a une Analyse des Echanges Linguistiques Inegaux. [The Old Woman and the Doctor].
Etudes de Linguistique Appliquee, 37, Jan-March, 34-43.

C CSO CFR

Lane, Nancy and Cathrun L. Kammerer. 1975.

Writer's Guide to Medical Journals.

Philadelphia: Lippincott.

M MP MV MO

Last, J. (Ed.). 1983.

A Dictionary of Epidemiology.

Oxford: Oxford University Press.

R RDV

Le Cron, L. 1963.

Readable Writing.

Northwest Medicine, April, 25-26.

C CCE

Leaffer, Thelma. 1982.

Applications to Psychoanalysis and Psychotherapy.

Linguistics and the Professions. Di Pietro (Ed.).
Norwood, New Jersey: Ablex.

C CSO

Lejeune, F. and W. Runjes. 1974.

Medical and Pharmaceutical Dictionary: English - German / Englisch - Deutsch.
Stuttgart: G. Thieme.

R RDM RGE

Lennard, H. and A. Bernstein. 1968.

Interdependence of Therapist and Patient Verbal Behaviour.

Readings in the Sociology of Language. Fishman (Ed.): 170-178.
The Hague: Mouton.

C CSO

Lennard, H. et al. 1960.

The Anatomy of Psychotherapy: System of Communication and Explanation.
New York: Columbia University Press.

C CSO

Leonard, P. 1983.

Building a Medical Vocabulary.

Eastbourne: Saunders.

M MP MV MY

Levine, H. and C. McGuire. 1970.

The Use of Role-Playing to Evaluate Affective Skills in Medicine.
Journal of Medical Education, 45, 9.

C CCE

Lewis, P.D. 1975.

Adjectives in Descriptive Anatomy.

M.A./ELT Thesis, Department of Linguistics and Phonetics, University of Leeds.

C CSO

Lewkowicz, J. and J. Pett. 1980.

Report on a Project Designed at Developing Language Skills of Medical Equipment Technical Students.
Occasional Papers, 2, January.
Faculty of Education, Ain Shams University, Cairo.

A AP AF AE AAR

Lewycka, H., P. Mares and N. Whitaker. 1980.

The H.E.L.P. (Harehills English Language Project) Maternity Language Course.
Leeds, U.K.: Printed Resources Unit for Continuing Education, Leeds City Council, Department of Education.

M ML MS

Ley, P. 1979.

Improving Clinical Communication: Effects of Altering Doctor-Behaviour.
Research in Psychology and Medicine. Osborne, Grunebers and Eisen (Eds.). Vol.2: 221-9.
London: Academic Press.

C CCE

Little, Stuart. 1982.

English and Medicine.

EFL Gazette, 26, January.

A AP AS AO

Litton-Hawes, E. 1978.

A Discourse Analysis of Topic Selection in Medical Interviews.

Sociolinguistic Newsletter, 9, 2.

C CSO

Litton-Hawes, Elaine. 1978.

A Discourse Analysis of Topic Co-Selection in Medical Interviews.
University of Utah, Salt Lake Newsletter, 9, 2, Summer: 25-26.

C CSO

Lock, S. 1977.

Thorne's Better Medical Writing.

London: Pitman.

M MP MV MO

Lock, S., F. Whimster and Y. Collan. 1975.

A Medical English Course for Doctors.

The Finnish Medical Society DUODECIM: Runebergsinkatu 47A, SF - 00260, Helsinki 26.

M MP MF MO MFI

Long, Barrie E. 1985.

A Study of the Verbal Behaviour of Family Doctors.

International Journal of the Sociology of Language, 51: 5-25.

C CSO

Luceri, R. and R. Duda. 1975.

A Course in Advanced Medical English.

Melanges Pedagogiques, C.R.A.P.E.L.

A AP AF AO AFR

Lynch, Barbara and Charles Chapman. 1980.

Writing for Communication in Science and Medicine or Out of Your Mind with Comprehensive Assurance.
New York: Van Nos Reinhold.

M MP MV MO

Lynch, Michael. 1978.

Art and Artifact in Laboatory Science: A Study of Shop Work and Shop Talk in a Research Laboratory.
Ph.D. Thesis. University of California, Irvine.

C CSO

Mackin, R. and A. Weinberger. 1962.

El Ingles para Medicos y Estudiantes de Medicina.

London: Longman.

M MP MF ME MSP

Maclean, Joan. 1975.

English for Basic Medical Science.

London: Oxford University Press.

M MP MF ME

Maclean, Joan. 1985.

Description of Doctor-Patient Consultation: Review of Davis (1978) and Pendleton (1983).
International Journal of the Sociology of Language: The Health Professions, 51: 131-134.

C CSO

Macnamara, M. 1974.

Talking with Patients: Some Problems Met by Medical Students.

British Journal of Medical Education, 8: 17-23.

C CCE

MacVey and Associates, Inc.

Getting Medical Assistance.
Speakers.
Chicago: Follett Publishing Company.

M ML MS

Maguire, G. and D. Rutter. 1976.

Training Medical Students to Communicate.

Communication between Doctors and Patients. Bennett, (Ed.).
London: Oxford University Press for the Nuffield Provincial Hospitals Trust. pp.47-74.

C CCE

Maharatra, S.B. and Max Hamilton. 1974.

Examinations for Foreign Psychiatrists: Problems of Language.

British Journal of Medical Education, 8.

A AP AS AT

Maher, John C. 1981.

The Scientific Manuscript: Overview and Guidelines for the ESP/ST Instructor.

Cross Currents, VIII, 2.

A AP AF AO

Maher, John C. 1981.

Concepts and Scientific Usage in English.

Bulletin of Shimane Medical University, 3.

A AP AF AE AJA

Mandell, Harvey N. 1980.

Physician-At-Large: Histories as they are Wrote and other Lamentations.

Postgraduate Medicine, 68, 4.

C CCE

Manuila, A. (Ed.).

Progress in Medical Terminology.

Basel: S. Krager.

C CSO CY

Marder, Daniel. 1960.

The Craft of Technical Writing.

New York: Macmillan.

M MP MV MO

Margolis, Lewis. 1980.

English on Rounds.

Igaku Kyoiku (Medical Education), (Tokyo), 11, August:198.

A AP AF AO AJA

Martin, Joan. 1984.

The Nurses Dictionary.

London: Faber.

R RDV RN

Martins, J.M. 1974.

English for the Foreign Physician.

Springfield, Illinois: Charles Thomas.

M MP MS MO

Martins-Baltar, Michel. 1978.

Parler de Soi dans Trois Situations d'Entretien: Quelques Hypotheses pour une Recherche.

Etudes de Linguistique Appliqué, 29, Jan-March:35-44.

C CSO CFR

Maslova, A.M. and Z.I. Veynshteyn. 1976.

Posobie po Angliyskomu yazyku dlya Meditsinskikh.

Moscow: Vysshaya Shkola.

M MP MF ME MRU

Maslova, A.M., Z.I.Veynshteyn and L.S. Plebeyskaya.1977.

Essential English for Medical Students.

Moscow: Moscow Higher School.

M MP MF ME MRU

Masuda, Hideo. 1982.

ESP - Medical English for Students.

Journal of the Kansai Chapter of the English Language Education Society, 5: 55-59.

A AP AF AE AJA

McKinlay, Jane. 1983.

An Analysis of the Discussion Section of Medical Journal Articles.
M.A. Project Report, Department of English Language Research, University of Birmingham.

C CSO

McKnight, A. 1976.

Large-Group Conversation: Problems of Discourse Analysis.

M.A. Thesis. University of Lancaster.

C CSO

McLachlan, G. (Ed.) 1979.

Mixed Communications.

London: Oxford University Press for the Nuffield Hospitals Trust.

C CCE

McMullen, J.J. and A. Barr. 1964.

Outpatient Letters: A Study in Communication.

Journal of the Royal College of General Practitioners, 7: 66-75.

C CCE

Meadow, R. 1969.

Speaking at Medical Meetings.

The Lancet, 2, 634.

C CCE

Medical Examination Publishing Co. 1967.

Handbook for Foreign Medical Graduates ECFMG.

Flushing, New York: Medical Examination Publishing Co.

M MP MS MT

Medical Recording Service Foundation.

(Medical Recording)

Medical Recording Service Foundation, P.O.Box 99, Chelmsford, Essex, CM1 5HL, U.K.

M MP MS ME

Meehan, A. J. 1981.

Some Conversational Features of the Use of Medical Terms by Doctors and Patients.
Medical Work, Atkinson and Heath (Eds.): 107-127.
Farnborough: Gower.

C CSO CY

Methold, Kenneth and Chuntana Methold. 1975.

Practice in Medical English.

London: Longman.

M MP MF ME

Miano, Seiji. 1972.

Keikotoki ni mita Igaku Seibutsugaku Ryoteki no Eigo Jitsugojiten (Dictionary of Medical and Biological Abbreviations in English).
Tokyo: Hirokawa Shuten.

R RB RJA

Milton Keynes Voluntary Language Scheme. n.d.

The New Baby: Books 1-10. (Gulshan Sadia from Pregnancy through to the Ante-Natal Clinic).
M.K.V.L.S., The Queensway Centre, Queensway, Bletchley, Milton Keynes, MK2 2HB, U.K.

M ML MS

Mizoguchi, Utako. 1976.

Raifu Saiensu no Eigo Ronbun (Writing Papers in English for the Life Sciences.
Tokyo: Kodansha.

M MP MF MO MJA

Morton, L. G. 1970.

A Medical Bibliography.

London: Deutch.

C CCE

Moses, P. J. 1954.

The Voice of Neurosis.

New York: Grune and Stratton.

C CSO

Multanovsky, N. and A. Ivanova. 1969.

English - Russian Medical Dictionary.

Moscow: Publishing House Medicina.

R RDM RRU

Naude, C. and D. Naude. 1981.

Essential Principles of Effective Communication in Dental Surgery.
Journal of the Dental Association of South Africa, 36: 257-261.

C CCE CD

Neuble, D. and R. Cannon. 1984.

How to Make a Presentation at a Scientific Meeting.

Medical Teacher, 6, 1.

C CCE

Morgan, Peter P. 1981.

Author, Editor, Reviewer: How Manuscripts become Journal Articles.
Canadian Medical Association Journal, 124, 15.

C CCE

Morton, L. G. 1974.

Use of Medical Literature.

London: Butterworth.

C CCE

Moulds, Alastair, T. Bouchier-Hayes and K. Young. 1981.

A Guide to PLAB.

London: Heinemann.

M MP MS MT

Murakami, Kun, K. Ouata, and H. Campbell. 1974.

Isha no Eikaiwa (English Conversation for Doctors).

Kyoto: Y.MICIA. Press.

M MP MF MO MJA

Nesbit, Judith. 1979.

Ante-Natal Language Kit.

London: Commission for Racial Equality.

M ML MS

Newmark, Peter. 1976.

A Layman's Approach to Medical Translation.

Incorporated Linguist, 3, Summer: 63-67.

C CSO

Newmark, Peter. 1979.

A Layman's View of Medical Translation.

British Medical Journal, 2: 1405-1407.

C CSO

Newmark, Peter. 1976.

A Layman's Approach to Medical Translation.

Incorporated Linguist, 15, Spring: 41-47.

C CSO

Noda, K., N. Wada, and S. Murosa. 1972.

Isaku Ryakuso Jiten (Dictionary of Medical Abbreviations in English).
Tokyo: Nanzando.

R RB RJA

O'Brien, Maureen. 1978.

Communications and Relationships in Nursing.

Philadelphia: Mosby.

C CSO

O'Brien, Tony, J. Jameson and D. Kirwin. 1979.

Nucleus: Medicine.

London: Longman.

M MP MF ME

O'Brien, Tony, Jeffrey Jameson and David Kirwin. 1979.

Nucleus: Medicine.

London: Longman.

M MP MF ME

Okijima, J. 1976.

Ishi no Isaku Eikaiwa (Clinical English Conversation).

Tokyo: Bunkodo.

M MP MF MJA

Okuda, Kunio et al. 1969.

Isaku Eigo no Kakikata (How to Write Medical English).

Tokyo: Hirokawa.

M MP MF MJA

Okuda, Kunio, et al. 1969.

Handbook of Medical English.

Tokyo: Isaku Shoin.

M MP MF MO MJA

Olsen, John and Pamela Albert. 1985.

Profile: France.

EMP Newsletter, 2, 2: 3-4.

A AP AF AE AFR

Oria, Hajime. 1980.

Isaku Eikaiwa (Medical English Conversation).

Tokyo: Nanundo Press.

M MP MF MO MJA

Osol, Arthur, et al. 1972.

Blackiston's Gould Medical Dictionary.

New York: McGraw Hill.

R RDV

Otswald, P. 1979.

Symptoms, Diagnosis and Concepts of Disease - Some Comments on the Semiotics of Patient-Physician Communication.
Social Science Information, 7, 4: 95-106.

C CSO

Otswald, P.F. 1984.

How the Patient Communicates about Disease with the Doctor.

Approaches to Semiotics. Sebeok (Ed.).
The Hague: Mouton.

C CSO

Paavola, Leena and Kirsti Pakula. 1985.

Laboratory English.

Helsinki: Valtion Painatuskeskus.

M MP MF MO MFI

Park, Davis and Co. 1972.

Medical Word Building.

London: Medical Economics Books.

M MP MV MY

Parkin, D. M. 1976.

Survey of the Success of Communication between Hospital Staff and Patients.
Public Health, 90:203-76.

C CCE

Parkinson, Joy. 1978.

English for Doctors and Nurses.

London: Evans.

M MP MN MF MO

Parkinson, Joy. 1979.

English Practice tape material for overseas doctors preparing for PLAB EXAMINATION.
Pastest Service (P.O.Box 81, Hemel Hempstead, U.K.)

M MP MS MT

Parkinson, Joy. 1980.

A Manual of English for the Overseas Doctor.

London: Churchill Livingstone.

M MP MF MO

Parkinson, Joy. 1980.

English Language Problems of Overseas Doctors Working in the U.K.
English Language Teaching Journal, XXXIV, 2.

A AP AS AO

Parliament, Great Britain. 1973.

Report of the Committee on Nursing.

London: HMSO (Her Majesty's Stationery Office).

C CCE CN

Pendleton, D. and J. Hasler. (Eds.). 1983.

Doctor-Patient Communication.

London: Academic Press.

C CCE

Pettenari, Catherine. 1983.

The Function of a Grammatical Alternation in 14 Surgical Reports.
Applied Linguistics, 4, 1, Spring.

C CSO

Pettenari, Catherine. 1985.

A Comparison of the Production of Surgical Reports by Native and Non-Native Speaking Surgeons.
Systemic Perspectives on Discourse: Selected Applied Papers from the 9th International Systemic Workshop.
New Jersey: Ablex.

C CSO

Peyser, Alfred. 1950.

Pars Pro Toto: Breviarum Medicum Internationale.

Stockholm: Almqvist and Wiksell.

R RB RLA

Pfeiffer, C.J. and T. Nagai. 1982.

Speaking Medical English.

Tokyo: Isaku Shoin.

M MP MF MO MJA

Phillips, Jay A. 1975.

Review of Blum, 1972, 'Reading Between the Lines: Doctor-Patient Communication'.
The Journal of Nervous and Mental Disease, 161, 3, September: 212-213.

C CSO

Pickering, G. 1961.

Language: The Lost Tool of Learning in Medicine and Science.

The Lancet, 2: 115.

C CSO

Pittenger, R. E. and H. L. Smith. 1957.

A Basis for some Contribution of Linguistics to Psychiatry.

Psychiatry, 20: 61-78.

C CSO

Platt, F.W. and J.C. McMath. 1979.

Clinical Hypocompetence: the Interview.

Annals of Internal Medicine, 91: 898-902.

C CCE

Portman, I., B. East and S. Andrews. 1979.

Spoken Medical English Course.

British Council, Cairo.

M MP MF ME MAR

Pragmatics. 1971.

The Pragmatics of Therapeutic of Therapeutic and Doctor-Patient Communication.
Pragmatics: Special Issue on 'Wording and Wording'.

C CSO

Prendergast, Alice. 1977.

Medical Terminology: A Text/Workbook.

Reading, Mass.: Addison-Wesley.

M MP MV MY

Prince, Ellen, Joel Frader and Charles Bosk. 1982.

On Hedging in Physician-Physician Discourse.

Linguistics and the Professions. Robert di Pietro (Ed.).
New Jersey: Ablex Publishing Company.

C CSO

Pritchard, Edith, et al. n.d.

A Language Guide for Patient and Nurse.

Indianapolis: Eli Lilly and Company.

M ML MN MV MY

Prodromu, Luke. 1984.

Medicine: Developing Reading Skills.

Oxford: Pergamon.

M MP MF ME

Professional and Linguistic Assessments Board. 1980.

Notes for Guidance of Examiners.

Notes for the Guidance of Examiners, Mau.
Professional and Linguistic Assessments Board.

A AP AS AT

Purvis, Keith. 1978.

Read and Note: English Study Skills for Science and Medicine.

London: Heinemann.

M MP MF ME

Raimbault, G., C. Cachin, J. Limal, R. Rapoport. 1975.

Aspects of Communication between Patients and Doctors: An Analysis of the Discourse in Medical Interviews.
Pediatrics, 55, 3: 401-405.

C CSO

Rea, Pauline. 1978.

Testing Doctors' Written Communicative Competence: An Experimental Technique in the Testing of Writing Proficiency in English for Specific Purposes.
M.A. Thesis. Institute for Language Education, University of Lancaster.

A AP AS AT

Reeder, Robert C.(Ed.). 1981.

Sourcebook of Medical Communication.

St.Louis: Mosby.

C CCE

Prodromu, Luke. 1985.

Medicine: Developing Reading Skills.

Oxford: Pergamon.

M MP MF ME

Purtilo, R. B. 1984.

Health Professional/Patient Interaction.

Iowa University Press.

C CCE

Radford, K. 1979.

The World of Medicine.

London and Tokyo: Longman-Eichosha.

M MP MF ME MJA

Ratnoff, Oscar D. 1981.

How to Read a Paper.

Coping With Biomedical Literature. Morton (Ed.). 95-101.

C CCE

Redlich, F. C. 1949.

The Patient's Language.

Yale Journal of Biology and Medicine, 17: 427-53.

C CCE

Regent, Odile. 1980.

Le Discours Medical Ecrit en Francais et en Anglais: Etude Comparative en Vue d'Applications Pedagogiques.
These de Troisieme Cycle: C.R.A.P.E.L., Universite de Nancy.

C CSO

Rehnicer, Zora et al. 1965.

Engleski za Medicinskeskole: English for Nurses. Parts 1-3 (Neizmijenjeno Izdanje).
British Council Library, London.

M MN MF ME MCZ

Reichert, J. 1973.

English for Hospital Aides and Orderlies.

TEFL Lebanon, 7, 3.

A AH AF AO AAR

Relman, Arthur S. 1980.

Journals.

Coping With Biomedical Literature. Morton (Ed.). 67-78.

C CCE

Reynolds, M. 1978.

No News Is Bad News: Patients' Views about Communication in Hospitals.
British Medical Journal, 1: 1973-76.

C CCE

Richey, Jim. 1980.

Medical Language: A Survival Vocabulary.

Hayward, California: Janus.

M ML MS MY

Rigal, Waldo A. 1976.

The Inverted Dictionary: A Method of Finding Quickly Medical Terms.
Westport, Connecticut: Technomic Publishers.

R RDY

Riley, P. and P. Cunningham. 1974.

The Faber Pocket Medical Dictionary.

London: Faber and Faber.

R RDV

Roberts, Ffranscon. 1966.

Good Medical English for Medical Writers.

London: Heinemann Medical Books.

M MP MV MO

Roberts, Ffranscon. 1971.

Medical Terms - Their Origin and Construction.

London: Heinemann Medical Books.

C CSO CY

Roberts, Franscon, E. Ishikawa and W. Harada. 1973.

Good English: Seeato na Igaku Eigo no Kakikata.

Tokyo: Hirokawa Shoten.

M MP MF MO MJA

Robertson, Jo. 1977.

Basic Medical Vocabulary.

New York: McGraw Hill.

R RDY

Robinson, Pauline. 1980.

'Textbooks in Medicine'

Section in 'English for Specific Purposes' (63-66).
Longman: Pergamon.

A AP AF AE AO

Roddy, Peter, Robert Foreman and Howard Schweitzer. 1977.

Medical Abbreviations and Acronyms.

New York: McGraw Hill.

R RB

Rodono, Eleanora. 1984.

English for Nurses: Focussing on Patients.

System, 12, 9.

A AN AF AQ

Rodway, A.C. 1971.

Overseas Nurses' Guide to Examination English.

Nursing Mirror, 133, 19.

A AN AS AT

Roland, Charles G 1973.

Thoughts on Medical Writing.

Anesthesia and Analgesia, 52: 383-84.

C CCE

Roland, Charles G.

Thoughts on Medical Writing.

Anesthesia and Analgesia, 53: 786-87.

C CCE

Roland, Charles G. 1970.

Thoughts on Medical Writing.

Anesthesia and Analgesia, 49: 846.

C CCE

Roland, Charles G. 1970.

Thoughts on Medical Writing.

Anesthesia and Analgesia, 49: 975-6.

C CCE

Roland, Charles G. 1971.

Thoughts on Medical Writing.

Anesthesia and Analgesia, 50: 947-48.

C CCE

Roland, Charles G. 1972.

Thoughts on Medical Writing.

Anesthesia and Analgesia, 51: 297-98.

C CCE

Roland, Charles G. 1972.

Thoughts on Medical Writing.

Anesthesia and Analgesia, 51: 566-67.

C CCE

Roland, Charles G. 1972.

Thoughts on Medical Writing.

Anesthesia and Analgesia, 51: 759-60.

C CCE

Roland, Charles G. 1972.

Thoughts on Medical Writing.

Anesthesia and Analgesia, 51: 899-900.

C CCE

Roland, Charles G. 1973. Thoughts on Medical Writing. Anesthesia and Analgesia, 52: 65-66. C CCE	Roland, Charles G. 1973. Thoughts on Medical Writing. Anesthesia and Analgesia, 52: 188-89. C CCE
Roland, Charles G. 1974. Thoughts on Medical Writing. Anesthesia and Analgesia, 53: 29-30. C CCE	Roland, Charles G. 1974. Thoughts on Medical Writing. Anesthesia and Analgesia, 53: 200-01. C CCE
Roland, Charles G. 1974. Thoughts on Medical Writing. Anesthesia and Analgesia, 53: 786-87. C CCE	Roland, Charles G. 1974. Thoughts on Medical Writing. Anesthesia and Analgesia, 53: 940-41. C CCE
Roland, Charles G. 1975. Thoughts on Medical Writing. Anesthesia and Analgesia, 54: 139-41. C CCE	Roland, Charles G. 1975. Thoughts on Medical Writing. Anesthesia and Analgesia, 54: 139-41. C CCE
Roland, Charles G. 1971. Thoughts on Medical Writing. Anesthesia and Analgesia, 50: 381-82. C CCE	Roland, Charles G. and Barbara Cox. 1976. A Mandatory Course in Scientific Writing for Undergraduate Students. Journal of Medical Education, 51, February. C CCE
Rope, Arthur and Susan Sheerin. 1982. Clinical View. EFL Gazette, 26, January. A AP AF AO	Roper, N. 1978. Nurses' Dictionary. London: Churchill Livingstone. R RDV RN

Ruesch, J. 1973.

Therapeutic Communication.

New York: Norton.

C CCE

Rush, William E. 1972.

Medical Orientation U.S.A. Program: A Preliminary Survey.

Journal of Medical Education, 47, 6.

C CCE

Rush, William E. and Gloria Coomes. 1975.

Medical Orientation U.S.A. - 1974: A Progress Report.

Federation Bulletin, 6, 8, August.
The Federation of State Medical Boards of the U.S.A. Inc.

C CCE

Ryan, Maurice. 1984.

An Approach to the Teaching of Word Roots to Paramedical Students.
EMP Newsletter, 1, 2: 19-23.

A AP AF AY

Salager, Francoise. 1983.

The Lexis of Fundamental Medical English: A Classificatory Framework and Rhetorical Function.
Reading in a Foreign Language, 1, 1, March.

C CSO

Salager, Francoise. 1983.

Compound Nominal Phrases in Scientific-Technical Literature: Proportion and Rationale.
Reading for Professional Purposes: Studies in Native and Foreign Languages. Pugh and Ulijn (Eds.).
London: Heinemann.

C CSO CY

Salager, Francoise. 1984.

The English of Medical Literature Research Project.

English for Specific Purposes, June, 87.

A AP AF AE

Samson, P. 1972.

Glossary of Haemaqtological and Serological Terms.

London: Butterworths.

R RDY

Samson, P. 1975.

Glossary of Bacteriological Terms.

London: Butterworths.

R RDY

Sanderson, Margaret. 1982.

The Visual as a Rhetorical Device: The Use of Posters in Biomedical Meetings.
English for Specific Purposes, 63: 5-6.

A AP AF AO

Sandler, P.L. 1983.

Medically Speaking.

London: B.B.C. Publications.

M MP MF ME.

Sandow, E. and J.D. Anderson. 1978.

A Guide to Better Slides for European Meetings and Congresses of Cardiology.
European Society of Cardiology.

C CCE

Saramies, Leena and Ann Penttila. 1980.

Nurse - your English.

Porvoo, Finland: WSOY.

M MF MN MO MFI

Saunders, C. M. 1965.

Telling Patients.

District Nursing, September.
(Reprints: St. Christopher's Hospice, London, S.E.26).

C CCE

Savariego, Berta. 1982.

Talk to the Patient in Spanish.

Cincinnati, Ohio: Southwestern Publishing Co.

M MP MS MO MSP

Schertel, A. 1984.

Abbreviations in Medicine.

New York: Wiley.

R RDB

Schertel, Albrecht. 1977.

Abzurzungen in der Medizin / Abbreviations in Medicine.

Basel: Verlag Documentation.

R RB RGE RFR

Scott, N. and M.F. Weiner. 1984.

'Patientspeak': An Exercise in Communication.

Journal of Medical Education, 59.

C CCE

Scottish Home and Health Department. 1973.

Immigration Act 1971: Recruitment of Students and Staff from Overseas.
Edinburgh: S.H.H.D.

C CCE

Scripture, E. W. 1916.

Records of Speech in General Paralysis.

Quarterly Journal of Medicine, 10: 20-28.

C CSO

Sebeok, T. 1977.

Unexpected Semiotic Implications of Medical Enquiry: A Perfusion of Signs.
Sebeok (Ed.).

C CSO

Seccombe, D. J. 1960.

Styles of English Encountered within the Register of Obstetrics and Gynaecology related to the Linguistic Problems of the Overseas Student.
Diploma (AL) Thesis, Department of Linguistics, University of Edinburgh.

A AP AS AE

Secundy, Miriam and Vera Katz. 1975.

Factors in Patient-Doctor Communication: A Communication Skills Elective.
Journal of Medical Education, 50, 7, July.

C CCE

Seedhom, B.B., J.E. Smeathers and D.T.Thompson. 1985.

Devising a Course for Overseas Visitors who Don't Speak English Well.
British Medical Journal, 391, 21 September: 802-804.

A AP AF AO AJA

Selinker, Larry. 1979.

On the Use of Informants in Discourse Analysis and Language for Specialized Purposes.
IRAL - International Review of Applied Linguistics in Language Teaching, Vol. XVII, 3.

C CSO

Sen, Amiya. 1970.

Problems of Overseas Students and Nurses.

Windsor: NFER (National Fund for Educational Research in England and Wales).

C CCE

Settar, G. 1976.

Worldwide Medical Interpreter.

New York: Van Nostrand.

R RDM RFR RSP RGE RPO RRU

Sexton, M. 1976.

Acceptance, Defiance and Evasion in a Psychiatric Meeting.

M.A. Thesis. University of Lancaster.

C CSO

Seymour, Andrew E. 1982.

English for Students of Medicine.

Al-Manakh, 5, 2, August.

A AP AF AO

Shands, Harley and Meltzer. 1973.

Language and Psychiatry.

The Hague: Mouton.

C CSO

Shands, Harley and Meltzer. 1975.

Clinical Semiotics.

Language Sciences, 38, 21-24.

C CSO

Shao, Xundao. 1978.

Yixue Zhuanye Ying Yu Yu Fa (English Grammar for Medical Students).
Beijing: The People's Health Publishing House.

M MP MF ME MCH

Shao, Xundao. 1981.

Yingyu Yixue Shukan Yuedu Yu Fanyi Jiaocheng (How to Read and Translate English Medical Books and Journals).
Beijing: The People's Health Publishing House.

M MP MF ME MCH

Shao, Xundao. 1981.

Yixue Yingyu Xuexi 1 (Learn Medical English: Book One).

Beijing: The People's Health Publishing House.

M MP MF ME MCH

Shao, Xundao. 1982.

Yingyu Ting Yong Wen (Practical English Writing).

Beijing: The People's Health Publishing House.

M MP MF MO MCH

Shao, Xundao. 1983.

Yingyu 1. (English Textbook for Medical Students in China: Book One).
Beijing: The People's Health Publishing House.

M MP MF ME MCH

Shao, Xundao. 1983.

Yixue Yingyu Xuexi 2 (Learn Medical English: Book Two).

Beijing: The People's Health Publishing House.

M MP MF ME MCH

Shao, Xundao. 1984.

Yingyu 2. (English Textbook for Medical Students in China: Book Two).
Beijing: The People's Health Publishing House.

M MP MF ME MCH

Shao, Xundao. 1984.

Yi Xue Yingyu Jie Ti Du Ben (Basic English Course for Medical Students).
Beijing: The People's Health Publishing House.

M MP MF ME MCH

Sheerin, 1982.

Exploiting Television with Particular Reference to Teaching ESP.

Video in the Language Classroom. Geddes and Sturtridge (Eds.).
London: Heinemann.

A AP AF AE

Sheerin, Susan. 1981.

Some Difficulties, Real and Imagined in Conducting Medical 1
Case Conferences in the Teaching of Doctor/Doctor Language.
Lexden Papers 2.
Oxford: Lexden Centre.

A AP AF AO

Sheerin, Susan. 1982.

Teaching Doctors to Speak English.

EFL Gazette, 26, January.

A AP AF AO

Shephard, D. 1979.

How to Evaluate Papers Given at Medical Meetings: Use of the SPEAKER Index.
British Medical Journal, 1, December: 1403-1404.

C CCE CT

Shirman, John. 1979.

Mnemonics and Tactics in Medicine and Surgery.

London: Lloyd-Duke.

M MP MV ME

Shippen, Katherine. n.d.

Men of Medicine.

Tokyo: Seibido Publishing.

M MP MF ME MJA

Shuy, Roger W. 1974.

Problems in Communication in A Cross-Cultural Medical Interview.

Working Papers in Sociolinguistics, 19, December.
Austin, Texas: Southwestern Educational Development Laboratory.

C CSO

Shuy, Roger W. 1976.

The Medical Interview: Problem in Communication.

Primary Care, 3: 365-386.

C CSO

Shuy, Roger. 1977.

The Patient's Right to Clear Communication in Health and Mental Health Delivery Service.
ITL, Review of Applied Linguistics, 35: 1-26.

C CSO

Sibscota, G. 1670.

The Deaf and Dumb Man's Discourse.

London: W. Crook.

C CSO

Sisrid, Vivian. 1984.

ESP for Nursing Assistants and Home Health Workers.

ESP Journal, 3, 2: 165-170.

A AH AF AO

Simmons, O. and M. Fishbein. 1925.

The Art and Practice of Medical Writing.

Chicago: Chicago University Press.

C CCE

Simpson, A. and M.Tusboi. 1983.

English for the Health Sciences.

Tokyo: Nankodo.

M MP MF MO MJA

Skevington, Suzanne M. 1980.

Intergroup Relations and Social Change within a Nursing Context.
British Journal of Social and Clinical Psychology, 19: 201-213.

C CSO

Skopek, L. 1975.

Sociolinguistic Aspects of the Medical Interview.

Ph.D. Dissertation. Georgetown University.

C CSO

Skopek, L. 1979.

Doctor-Patient Conversation: a Way of Analysing its Linguistic Problems.
Semiotica, 301-311.

C CSO

Slade, P. and M. Dewey. 1983.

Role of Grammatical Clues in Multiple Choice Questions: an Empirical Study.
Medical Teacher, 5, 4.

C CSO

Sloane, J. n.d.

The Medical Word Book: A Spelling and Vocabulary Guide to Medical Transcription.
Philadelphia: W.B. Saunders.

M MP MV MY

Smith, David J. 1980.

Overseas Doctors in the National Health Service.

London: Heinemann Educational Books for the Policy Studies Institute.

C CCE

Smith, G., P. Davis and N. Terada. 1979.

Puroguramu Manabu ni yoru Igaku Yogo no Manabikata (Medical Terminology: a Programmed Text).
New York and Tokyo: Wiley.

M MP MF MY MJA

Smith, Genevieve and Phyliss Davis. 1972.

Quick Medical Terminology.

New York: Wiley Self-Teaching Guides.

M MP MV MY

Smith, Richard. 1984.

Medical Journals in the Third World: Problems and Possibilities.

British Medical Journal, 289, 15 December: 1684-85.

C CCE

Souhami, R. L. 1978.

Teaching What to Say about Cancer.

The Lancet, 2: 935-6.

C CCE

Souther, James. 1957.

Technical Report Writing.

New York: Wiley.

M MP MV MO

Spence, Donald. 1979.

Language in Psychotherapy: Psycholinguistic Research - Implications and Applications.
New Jersey: Erlbaum.

C CSO

Stedman. 1976.

Stedman's Medical Dictionary: Illustrated.

Baltimore: Williams and Wilkins.

R RDV

Stevens, J. 1974.

Factors and Fallacies in Learning and Teaching the Science of Consultation for the Future General Practitioners.
Practitioner, 212, 83.

C CCE

Susar, M. 1969.

The English that Doctors Speak.

Zvaygzne, Riga.

M MP MF MO MRU

Soukhanov, Anne H. (Ed.). 1979.

Webster's Medical Office Handbook.

Springfield Illinois: G. and C. Merriam.

C CCE

Spatola, Anthony. 1982

Mastering Medical Language.

New Jersey: Prentice-Hall.

M MP MV MO

Stanchina, C. Henner. 1976.

English or Medical Science ?

Melanges Pedagogiques. C.R.A.P.E.L.

A AP AF AO AFR

Steen, Edwin B. 1978.

Abbreviations in Medicine.

London: Baillere - Tindall.

R RB

Stiles, W. et al. 1979.

Verbal Response Mode Profile of Patients and Physicians in Medical Screening Interviews.
Journal of Medical Education, 54: 81-89.

C CCE

Stones, R. W. 1972

Overseas Students in Britain: A Study of Male Recruits.

Nursing Times, 36.

C CCE

Strand, Helen. 1968.

An Illustrated Guide to Medical Terminology.

Baltimore: William and Wilkins Co.

M MP MV MY

Sullivan, H. S. 1954.

The Psychiatric Interview.

New York: Norton.

C CCE

Sutnik, A. I. 1970.

First Symposium on the Problems of Foreign Medical Graduates.

Journal of the American Medical Association, 213: 2241-46.

C CCE

Sutnik, A. I. 1972.

The Philadelphia Program for Foreign Medical Graduates.

Bulletin of American College Physicians, 12: 410-411.

C CCE

Sutnik, A. I. 1972.

The English Exam and the FMG.

Journal of Medical Education, 47, 6, June.

A AP AS AT

Sutnik, A. I. et al. 1972.

On the ECFMG English Exam.

Journal of Medical Education, 47, 6, June.

A AP AS AT

Sutnik, A. I., J. Reichard and A. Angelides. 1971.

Orientation of Foreign Medical Graduates.

International Education and Cultural Exchange, U.S.A., 6, 4.

C CCE

Svartz-Malmberg, G. and R. Goldman. (Eds.). 1978.

Nordic Biomedical Manuscripts.

Oslo: Universitetsforlaget.

C CCE

Svartz-Malmberg, G. and R. Goldman. 1978.

Nordic Biomedical Manuscripts.

Oslo: Universitetsforlaget.

M MP MF MO MNO

Svendsen, C. and K. Krebs. 1984.

Identifying English for the Job: Examples for Health Care Occupation.
The ESP Journal, 3, 2: 153-164.

A AP AF AO

Swales, John, and Paul Fanning. 1980.

English in the Medical Laboratory.

Middlesex: Nelson.

M MP MF MO

Swales, John. 1979.

Review of Horzella and Labarca (1974).

ESPENA Bulletin, IV.

A AP AF AE ASP

Takahashi, Owa. 1969.

Practical Card Writing in English and German.

Tokyo: Eikodo Publishing.

M MP MF MO MJA

Takashima, T., F. Brown Jr. and C. Theuer. 1975.

Isaku no Eikaiwa no Raisensu (English Conversation Licence for Physicians).
Tokyo: Bunkodo.

M MP MF MO MJA

Takha, V. 1984.

The Doctor-Patient Relationship.

Bristol: John Wright.

C CSO

Tanay, V. 1984.

Some Latin and Greek Prefixes and Suffixes in English Medical Words.
Journal of the Society of Technical and Scientific Translators of Croatia, 25-26.

C CSO CLA CGR

Tanay, V. 1984.

Medical and Non-Medical Register: An English-Croatoserbian Contrastive Analysis.
Journal of the Society of Technical and Scientific Translators of Croatia, 24-24.

C CSO CSB

Tanay, V. 1984.

'Pain' vs 'Bol' Collocated with English and Croatoserbian Adjectives and Verbs in regard to its Extensiveness, Frequency, Intensity, Persistence and Location.
Journal of the Society of Technical and Scientific Translators of Croatia.

C CSO

Tannen, Deborah and Cynthia Wallet. 1982.

A Sociolinguistic Analysis of Multiple Demands on the Pediatrician in Doctor/Mother/Child Interaction.
Linguistics and the Professions. Robert di Pietro (Ed.).
New Jersey: Ablex Corporation.

C CSO

Tanner, Bernice (Ed.). 1976.

Language and Communication in General Practice.

London: Hodder and Stoughton.

C CSO

Taxay, E. P. et al. 1964.

Postgraduate Education for Cuban Physicians: Observations on Bilingual Education.
Journal of Medical Education, January.

A AP AF AE ASP

The Charles Press. 1984.

The Charles Press Handbook of Medical Abbreviations.

Beckenham, Kent: The Charles Press.

R RB

Thomas, D. and J. Thomas. 1969.

English for Nurses.

London: Edward Arnold.

M MN MF MO

Thomas, M. and J.M. Williams. 1972.

Overseas Nurses in Britain.

London: Political and Economic Planning.

C CCE CN

Thornton, J. L. 1974.

Standard Reference Sources.

Use of Medical Literature. Norton (Ed.).
London: Butterworths.

C CCE

Thurston, Crawford, Roy Mitchell and Keith Little. 1981.

A Study of the Contents of Referral Letters from General Practitioners to an Accident and Emergency Department.
Health Bulletin, Vol.40, 3: 120-124.

C CCE

Tomoyoshi, Tadao. 1962.

Textbook of Medical English.

Kyoto: Nankodo Press.

M MP MF MO MJA

Trenkner, Peter. 1978.

Maritimes Englisch. (Maritime Medical Service). Lehrmittel fur das Lehrgebeit 'Maritimes Englisch'.
Nautical Engineering College, 2530 Warnemunde, GDR.

M MP MF MO MGE

Turell, Teresa. 1975.

Analysis of the Diglossic Process among Professional Groups in the Present Catalan Situation.
M.A./ELT Thesis. Department of Linguistics and Phonetics, University of Leeds.

C CSO CCA CSP

Turner, R. 1972.

Some Formal Properties of Therapy Talk.

Studies in Social Interaction. Sudnow (Ed.).
New York: Free Press.

C CSO

Twacke, Marian. 1976.

English for Specific Purposes: A Description of a Course for Medical Students at the University of Toronto.
TESL Talk, 7, April.

A AP AS AE

Tylkina, S.A. 1974.

Posobie po Angliyskomu Yazyku dlya Meditinskikh i Farmetsenticheskikh Chilisch.
Moscow: Vysshaya Shkola.

M MP MF ME MRU

Underwood, Mary and Pauline Barr. 1982.

Listeners: Dangerous Jobs/Working in Medicine.

Oxford: Oxford University Press.

M MP MF ME

United Kingdom Council for Overseas Student Affairs. 1971.

Overseas Nursing Students in Britain: Evidence Submitted to the Committe on Nursing.
London: U.K. Council for Overseas Student Affairs.

C CCE CN

Van Ments M. 1983.

The Effective Use of Role-Play. A Handbook for Teachers and Trainers.
London: Kogan Page.

C CCE

van Naerssen, Margaret and A. Frelick. 1984.

Professional Cultural Orientation in ESP.

Language Learning and Communication, Summer.

A AP AF AO

van Naerssen, Margaret and M. Higgenbotham. 1984.

Relaxed Readings in the Medical Field.

Oregon: ESP Clearinghouse, Oregon State University.

M MP MF ME

van Naerssen, Margaret, S. Krashen, and E. Kimmell. 1980.

English as a Second Language Test for Hospital Personnel.

Los Angeles: National Medical Enterprises.

M MH MS MT

van Naerssen, Margaret. 1979.

Improving English Medical Recordings by Foreign Medical Graduates.
ESP Newsletter, June.

A AP AS AE

van Naerssen, Margaret. 1981.

ESL in Medicine: a Matter of Life and Death.

TESOL Quarterly, 12, 2, June.

A AP AF AO

Van Naerssen, Margaret. 1985.

Medical Records: One Variation of Physicians' Language.

International Journal of the Sociology of Language: the Health Professions, 51: 43-73.

C CSO

Veillon, Emmanuel and A. Nobel. 1969.

Medical Dictionary.

Munich: Verlag Documentation.

R RDM RGE RFR

Verlag Enzyclopadie. 1980.

Fachwortschatz Medizin: Haufigkeitworterbuch Russisch - English - Franzosisch.
Leipzig: VEB Verlag Enzyklopadie.

R RDY RRU RFR RGE

Veylon, R. 1975.

Pourquoi la Recherche Medicale Francaise Est-Elle Sous Estimee Dans les Pays de Langue Anglais ?
La Nouvelle Presse Medicale, 4, 6.

C CSO

Vincent, Sue. 1982.

Language Labour Pains.

EFL Gazette, 26, January.

A AL AS AO

Vnuk, Wallace. 1977.

The Language of Medicine: workbook and cassettes.

New York: Cambridge Book Company.

M MP MV MY

Von Ferber, Liselotte. 1975.

Die Sprachsoziologie als eine Methode der Untersuchung des Arzt-Patienten Verhaltnisses.
Kolner Zeitschrift fur Soziologie und Sozialpsychologie, 27, 1: 86-96.

C CSO COE

Waitzin, H. and J. Stoeckle. 1972.

The Communication of Information about Illness: Clinical, Sociological and Methodological Considerations. Advances in Psychosomatic Medicine, 8: 180-215.

C CSO

Waitzkin, H. and J. Stoeckle. 1972.

The Communication of Information about Illness: Clinical, Sociological and Methodological Considerations. Advances in Psychosomatic Medicine, 8: 180-215.

C CSO

Waitzkin, Howard, et al. 1978.

The Informative Process in Medical Care: A Preliminary Report with Implications for Instructional Communication. Instructional Science, 7: 385-419.

C CCE

Walker, S. 1982.

Communication as a Function of Increasing Age.

Communication Changes in Elderly People. Edwards, H. (Ed.). Monograph No.3: The College of Speech Therapists.

C CSO

Wallace, M. J. 1983.

An Anaesthetist from Yugoslavia (Self-Directed Learning: Case Studies). S.A.T.E.F.L. Newsletter, 3, 1: 7-8.

A AP AF AO AYU

Walton, J. and G. McLachlan. 1984.

Doctor to Doctor: Writing and Talking about Patients.

Nuffield Provincial Hospitals Trust.

C CCE

Warren, Kenneth S. (Ed.). 1981.

Coping With The Biomedical Literature: A Primer for the Scientist and the Clinician. New York: Praser.

C CCE

Waser, Francesca. 1984.

Italienisch fur Mediziner: Eine Lektion naher Untersuch / (An Instruction Unit for Medical Examination). Bulletin CILA, 39: 33-38.

A AP AF AE AIT AGE

Watzlawick, P. 1978.

The Language of Change: Elements of Therapeutic Communication.

New York: Basic Books.

C CSO

Weinreich, Arnold and J. Schneider. 1974.

Teaching Medical Students Interactional Skills: A Research-Based Course in the Doctor-Patient Relationship. The New England Journal of Medicine, 290, 22, May.

C CCE

Weinreich, Frances, S. Vincent, K. Morris and P. Collander-Brown, 1982.
First Find Your Students.

EFL Gazette, 26, January.

A AL AS AO

Welford, W. 1975.

Closing the Communication Gap.

Nursing Times, 16 January.

C CCE

Whimster, Bill. 1977.

How can Foreign Authors Help Themselves ?

Thorne's Better Medical Writing. Locke (Ed.).
London: Pitman.

A AP AF AO

White, Wallace F. 1977.

Language of the Health Sciences.

New York: John Wiley.

M MP MV MO

Whitwam, J. G. 1970.

Spoken Communication.

British Journal of Anaesthesia, 42: 768.

C CCE

Williams, S. 1974.

A Sociolinguistic Analysis of the General Practice Interview.

M.A. Thesis. Department of English Language Research,
University of Birmingham.

C CSO

Wilson, Mellish. 1961.

The Writing of Medical Papers.

Philadelphia: Saunders.

M MP MV MO

Wilson, Merinda. 1985.

Review of 'Practical Medicine', Berman et al.

The Language Teacher (The Japan Association of Language
Teachers), IX, 4: 32-36.

A AP AF AE AJA

Winsard, Peter. 1982.

Some Verb Forms and Functions in Six Medical Texts.

English for Academic and Technical Purposes: Studies in Honor
of Louis Trimble. L. Selinker, E. Tarone and V. Hanzeli (Eds.).
Rowley, Massachusetts: Newbury House.

C CSO

Wodak, Ruth. 1981.

How do I Put My Problem ? Problem Presentation Therapy and
Interview.
Text, 1, 2, 11: 191-213.

C CSO

Yelisseyeva, A.G. and I.A Yershova. 1963.

English Words and How to Use Them: Health and Medical Services.

Moscow: Higher School State Publishing House.

M MP MF ME MRU

Young, Clara and Miriam Austin. 1979.

Learning Medical Terminology Step-by-Step.

St.Louis: Mosby.

M MP MV MY

Zollinger, R., W. Pace and G. Kienzele. 1961.

Medical Talks and Papers.

New York: Academic Press.

C CCE

Japanese EMP Bibliography

MJA AJA RJA

CLASSIFICATION:AJA

Gosewisch, Ron. 1985.

Review of 'Practical Surgery', Berman et al.

The Language Teacher (The Japan Association of Language Teachers), IX, 4: 36.

A AP AF AO AJA

Maher, John C. 1981.

Concepts and Scientific Usage in English.

Bulletin of Shimane Medical University, 3.

A AP AF AE AJA

Margolis, Lewis. 1980.

English on Rounds.

Igaku Kyoiku (Medical Education). (Tokyo). 11, August:198.

A AP AF AO AJA

Masuda, Hideo. 1982.

ESP - Medical English for Students.

Journal of the Kansai Chapter of the English Language Education Society, 5: 55-59.

A AP AF AE AJA

Seedhom, B.B., J.E. Smeathers and D.T.Thompson. 1985.

Devising a Course for Overseas Visitors who Don't Speak English Well.
British Medical Journal, 391, 21 September: 802-804.

A AP AF AO AJA

Wilson, Merinda. 1985.

Review of 'Practical Medicine', Berman et al.

The Language Teacher (The Japan Association of Language Teachers), IX, 4: 32-36.

A AP AF AE AJA

Aoki, Teruaki. 1983.

Kokusai Igakkai no Tame no Eikaiwa (English Conversation for the International Medical Congress).
Tokyo: Medical View Publishers.

M MP MF MO MJA

Cassidy, L. and T. Wasatsuma. 1982.

Isha no Tame no Jitsuyo Eikaiwa (English Conversation for Physicians).
Tokyo: Medical View Publishers.

M MP MF MO MJA

Ebizuka, H. and Y. Kaneda with the American Association for the Advancement of Science.1978.
Igaku Eigo no Yomikata (Reading Medical English).

Tokyo: Asahi Press.

M MP MF ME MJA

Eizo, Tosuri. 1963.

Eibun Karute no Kakikata (How to Write Case History Notes in English).
Tokyo: Bunkodo.

M MP MF MO MJA

Fujita, Takuo. 1970.

Eibun Byoreki no Yomikata (How to Read Clinical Histories in English).
Tokyo: Nanzando.

M MP MF MO MJA

Harada, Tetsuo and T. Tamura. 1960.

Igaku Ishi Yakugaku Eigo Ronbun Saho (How to Write Pharmacological Papers in English for Medical Doctors).
Tokyo: Kyodo Isho.

M MP MF MO MJA

Iriuchijima, Jiro. 1979.

Igaku Eigo Bunreishu (Medical English Style).

Tokyo: Chugai Igakusha.

M MP MF MO MJA

Kobayashi, T. 1972.

Igaku Eigo Kanyo Hyogen Shu (Glossary of Medical English Expressions).
Tokyo: Bunkodo.

M MP MF MJA

Mizoguchi, Utako. 1976.

Raifu Saiensu no Eigo Ronbun (Writing Papers in English for the Life Sciences.
Tokyo: Kodansha.

M MP MF MO MJA

Murakami, Ken, K. Osata, and H. Campbell. 1974.

Isha no Eikaiwa (English Conversation for Doctors).

Kyoto: Y.M.C.A. Press.

M MP MF MO MJA

Okijima, J. 1976.

Ishi no Igaku Eikaiwa (Clinical English Conversation).

Tokyo: Bunkodo.

M MP MF MJA

Okuda, Kunio et al. 1969.

Igaku Eigo no Kakikata (How to Write Medical English).

Tokyo: Hirokawa.

M MP MF MJA

Okuda, Kunio, et al. 1969.

Handbook of Medical English.

Tokyo: Isaku Shoin.

M MP MF MO MJA

Oria, Hajime. 1980.

Isaku Eikaiwa (Medical English Conversation).

Tokyo: Nanundo Press.

M MP MF MO MJA

Pfeiffer, C.J. and T. Nasai. 1982.

Speaking Medical English.

Tokyo: Isaku Shoin.

M MP MF MO MJA

Radford, K. 1979.

The World of Medicine.

London and Tokyo: Longman-Eichosha.

M MP MF ME MJA

Roberts, Franscon, E. Ishikawa and W. Harada. 1973.

Good English: Saato na Isaku Eigo no Kakikata.

Tokyo: Hirokawa Shoten.

M MP MF MO MJA

Shippen, Katherine. n.d.

Men of Medicine.

Tokyo: Seibido Publishing.

M MP MF ME MJA

Simpson, A. and M.Tusboi. 1983.

English for the Health Sciences.

Tokyo: Nankodo.

M MP MF MO MJA

Smith, G., P. Davis and N. Terada. 1979.

Purogramu Manabu ni woru Isaku Yogo no Manabikata (Medical Terminology: a Programmed Text).
New York and Tokyo: Wiley.

M MP MF MY MJA

Takahashi, Oya. 1969.

Practical Card Writing in English and German.

Tokyo: Eikodo Publishing.

M MP MF MO MJA

Takashima, T., F. Brown Jr. and C. Theuer. 1975.

Isaku no Eikaiwa no Raisensu (English Conversation Licence for Physicians).
Tokyo: Bunkodo.

M MP MF MO MJA

Tomoyoshi, Tadao. 1962.

Texbook of Medical English.

Kyoto: Nankodo Press.

M MP MF MO MJA

Isaku Shoin. 1977. Watanabe's Pocket Medical Dictionary: English - German - French - Latin - Japanese. Tokyo: Isaku Shoin. R RDM RGE RFR RLA RJA	Kanehara Shuppan. 1977. Medical Terminology: Japanese - Latin - English - German - French. Tokyo: Kanehara Shuppan. R RDM RJA RLA RGE RFR
Kinpodo. 1964. Medical Terminology for Nurses: Japanese - English - German - Latin. Tokyo: Kinpodo Press. R RDY RN RJA RGE RLA	Miano, Seiji. 1972. Keikoteki ni mita Isaku Seibutsusaku Ryoteki no Eigo Jitsusojiten (Dictionary of Medical and Biological Abbreviations in English). Tokyo: Hirokawa Shuten. R RB RJA
Noda, K., N. Wada, and S. Murosa. 1972. Isaku Ryakuso Jiten (Dictionary of Medical Abbreviations in English). Tokyo: Nanzando. R RB RJA	

Additional References

Bowie-Murison, Simon. 1966/67. Aspects of the Relevance of the Teaching of English to students with Specialist Interests. M.Sc. Thesis, Department of Applied Linguistics, University of Edinburgh.

Chrighton, Michael. 1979. Some Thoughts on Isolation. New England Journal of Medicine, 5, 4: 334-335.

Ingelfinger, F.J. 1972. Purpose of the general medical editorial. New England Journal of Medicine, 5, 78.

Christy, J. 1978. Use of English. New England Journal of Medicine, 8, 4.